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Propose National Timber Conservation Board

George W. Sisson Jr., President of the Racquette River Paper Co., Speaking for Representative Forestry Interests Suggests to President Hoover Formation of a Board Which Shall Direct Its Activities to National Economic Problems in Supply and Use of Forest Products and Maintenance of These Sources of National Wealth

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 7, 1930.—George S. Sisson, Jr., of the Racquette River Paper Company, Pottsdam, N. Y., and Jesse H. Neal, manager of the American Paper and Pulp Association, with representatives of the American Forestry Association and others interested in forest industries last week appealed to President Hoover to appoint a Board to deal with the problem of overproduction in forest industries. Mr. Sisson, as spokesman of the group, presented the President with the following statement:

To the President of the United States:

Concerning a Proposed "National Timber Conservation Board"

At the hearing with the President on forestry appropriations, in October, 1929, the representative of the American Forestry Association, (Ex-Governor Robert P. Bass of New Hampshire) closed his remarks as follows:

"In conclusion I want to revert to the fundamental needs of this entire situation, namely, a more permanent and stable forest policy based on the actual future requirements of the country definitely ascertained.

"We need better correlation between the legislative and the administrative branches of the Government. At present financial support lags behind the legislative program. Enabling legislation is not adequately or uniformly supported by appropriation necessary to make it effective.

"This discourages planning for any considerable period of time. It is administratively wasteful and ineffective. We need a financial program covering a substantial number of years.

"Finally, I believe that public opinion is ripe for a general review of our forest activities for the purpose of meeting present conditions and providing more fully for our future needs."

The forest situation embraces a series of major problems each of which bear directly or indirectly upon the productive use of forest land. The solution of any one of these major problems will be a step forward in the solution of the situation as a whole. One of the most aggravated problems pressing for constructive handling is the almost chronic over production which has characterized the forest industries for the past decade and a half. This situation appears to be becoming progressively worse instead of better. It is threatening the forest industries with economic chaos it is contributing to destructive lumbering, unnecessary waste of wood, and the premature cutting of timber needed in the future. It is having a deadening effect upon forest land values and the practice of industrial forestry. It is driving forest land from the tax rolls of many states with serious effect upon local and regional prosperity. It is making for insecurity of employment and is a serious obstacle to sustained land use, fire protection of productive areas, and a permanent supply of raw wood important to industry and commerce.

Correction of the over production situation will not solve the whole forest problem, but its constructive handling as promptly as possible is dictated by the public interest in a reasonably prosperous industry upon which the nation must depend for the productive use of sixty per cent or more of its forest land. Solution of the over production problem should serve to give freer flow to the practice of commercial forestry and to clarify handling of the other major problems involved in the broad forest situation. With public support and cooperation, the disordered state of supply and demand, it is believed, can be largely remedied within a reasonably short time.

To this end, a National Timber Conservation Board, with the aid of the best industrial experts and forest economists it is possible to obtain, is proposed to study the problem and to recommend a remedial course of action based upon public interest. The Board should act solely as a fact-finding agency and to make such recommendations as the findings-of-fact warrant. It should act under public commission, created by presidential appointment and composed of outstanding men representative of the forest industries, the forest conservation movement in its broad aspects, the general public, and the Government. The Board is not proposed with the idea that it can or will attempt to frame a broad national forest policy but rather to direct its activities to the national economic problems involved in the supply and use of forest products and the maintenance of these sources of employment and national wealth.

I. *Objectives:*

Declaration of facts, and recommendations of policy and action on the following problems of broad public interest:

1. What are the important Assets and Liabilities in the present Balance Sheet of our forests and forest industries? Points of economic strength, or weakness, in the present forest situation? Wherein is present knowledge adequate or inadequate, as the case may be, for the formulation of sound policies and programs?

(*Continued on page 34*)

News Print Price Revision May Be Approved

Principle of Stabilization of News Print Production Approved by American Newspaper Publishers' Association—Canadian Newsprint Institute's Plan to Increase Quotations Annually Until Price Reaches $60.20 In 1933, May Be Adopted

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., May 5, 1930.—As a result of the approval of the American Newspaper Publishers' Association of the principle of stabilization of the production of news print, it is believed here that the plan put forward by the Canadian Newsprint Institute in regard to a progressive increase in price will go into effect. According to this, for 3½ year contracts, to go into effect from July 1, this year, the price will remain at $55.20 a ton, f.o.b. mill, until the end of 1930. Then there will be an advance of $2 per ton for 1931, another $2 per ton for 1932, and $1 per ton in 1933, making the price $60.20 in 1933. On the basis of last year's production in Canada, namely 2,728,827 tons, this will mean that an additional five and a half million dollars approximately will be distributed among the mills, while in the year 1933 the additional revenue over that received this year on the same tonnage will be over 13½ million dollars.

Pulpwood Cutting Restraint Adopted

The Nova Scotia Legislature has approved an amendment to the Land Tax Act providing that no timber suitable for pulpwood on lots of 1,000 or more acres may be cut except under conditions to be named by the Attorney-General, who is also Minister of Lands and Forests. The latter official in supporting the amendment, said: "I hope the act will never have to be proclaimed; but, if circumstances should arise which would make profitable the stripping of large forest holdings in Nova Scotia in a single year, we must have legislation on the statute books which can be invoked at short notice to prevent such depletion." There was a possibility, he added, that other sources of supply would become exhausted, and that importation from Russia, still in the experimental stage, would not prove feasible. In that case, large tracts in Nova Scotia might be depleted in short order. More than half the land affected by the act was owned or under lease to United States operators and "There will never be mills established to manufacture this wood in Nova Scotia as long as foreign interests have unrestricted right to export."

MacLaren News Print Mills

Construction of the plant of the new news print mill of the MacLaren interests at Buckingham, Que., is now nearing completion, and installation of the machinery is proceeding. The mill will have an initial capacity of 250 tons per day, and is expected to come into production this fall. The company has constructed a small power plant near the mill. A total development of 125,000 h.p. is contemplated, and work on this is to be carried out immediately.

Price Bros. Statement

The annual financial statement of Price Bros. & Co. for the fiscal year ended February 28, 1930, shows operating profit of $3,332,799 as compared with $3,413,714 in the preceding year. Deduction of interest at $727,136 and depreciation at $1,254,232, left net earnings at $1,351,431, against $1,367,420 in the previous year. Payment of preferred dividends at $439,738 and common dividends at $853,664, left a surplus for the year of $58,029, against $63,092 in the preceding year. Previous surplus was brought forward at $2,667,146, making a profit and loss balance in the current report of $2,725,175.

In a report accompanying the statement John H. Price, president, says:

"All construction work in connection with the doubling of the capacity of your company's mill at Riverbend has been satisfactorily completed.

"The erection of a head office building in Quebec, to be known as 'Price House,' has been undertaken and is almost ready for occupation.

"At this date your company has completed the purchase of a controlling interest in Donnacona Paper Company, Ltd.

"The general condition of the physical assets of your company has been well maintained.

"The returns from the lumber branch of the business have again proved satisfactory, with practically no stock on hand.

"The curtailment of output, necessitated by market conditions, has again affected adversely the profits from news print paper and allied products and it is felt that this condition is likely to continue for some time."

Donnacona Co.'s New Product

The Donnacona Paper Company's new plant for the production of insulating board is now in operation. The capacity is 15,000 tons per annum.

New Canadian International Officials

The Canadian International Paper Company announces that H. J. Webb has been appointed comptroller; C. B. Thorne has been appointed vice-president in charge of sulphite manufacture and F. G. Robinson appointed vice-president in charge of sulphite sales of the company.

Canadian International Paper owns and operates the Three Rivers and Gatineau news print mills and the Kipawa and Hawkesbury bleached sulphite mills of the International system.

No Danger of Forest Depletion

Speaking in Montreal, G. C. Piche, Director of Forestry Services for Quebec Province, said that with co-operation on the part of all those connected with this important national industry, it would not only be possible to conserve the actual forest reserves but to increase them materially, with the help of scientific methods.

Mr. Piche gave some geographical notions of the province, the total area of which is estimated at 590,865 square miles, some 243,714 miles forming the total possible forest reserves.

Only a small portion of this valuable national patrimony has been conceded, including 9,951 square miles in the hands of individuals; 2,023 square miles conceded as settlers' lots, leaving 232,024 square miles as Crown Lands and it is on these reserves that the Government authorizes lumbering. From time to time, large tracts of land are leased, following public auction and the lessee pays to the Provincial Treasury a royalty of $8 per square mile, aggregating an income of $640,000 annually.

Mr. Piche quoted official statistics to show the importance of the lumber industry in the province. No less than 12,000 people are directly connected with one or the other operation in this field. The salaries paid in the sawmills alone are $6,000,000 annually and the total production last year reached the sum of $40,000,000. In the pulp and paper industry, about 500,000 workers of all ranks are engaged, earning in wages $40,000,000, the total production being estimated at $127,000,000. The total annual production of lumber and wood products in Canada is valued at $595,000,000, with one-third coming out of the forests of the province of Quebec.

Mr. Piche declared that the time had come for the province of Quebec to diversify its production. He produced a large variety of delicate wood products of an artificial nature, such as leather, cotton, silk, twine and many others which are in great demand on the world market and can be produced in this country.

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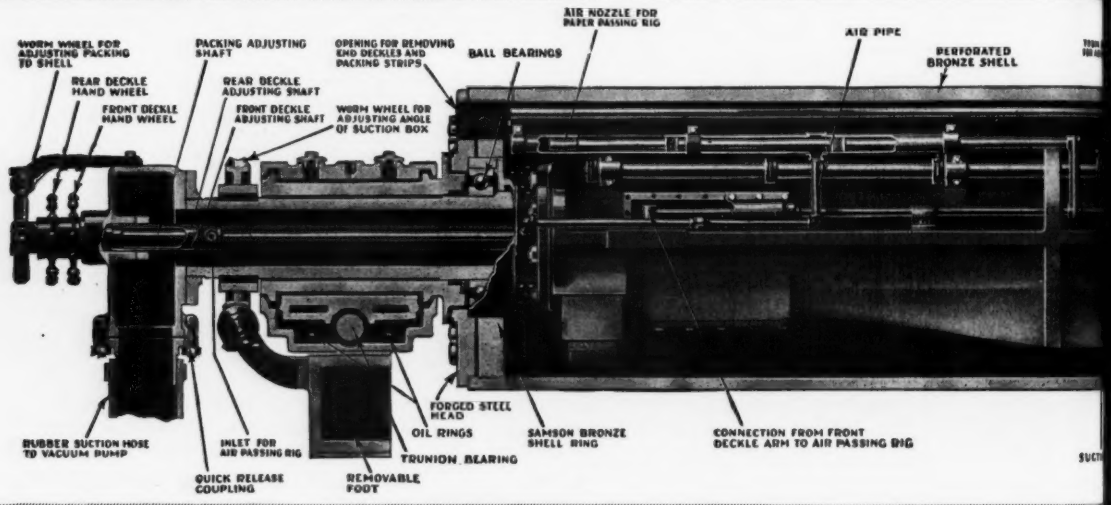
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FRONT DECKLE HAND WHEEL
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OPENING FOR REMOVING END DECKLES AND PACKING STRIPS
WORM WHEEL FOR ADJUSTING ANGLE OF SUCTION BOX
BALL BEARINGS
AIR NOZZLE FOR PAPER PASSING RIG
AIR PIPE
PERFORATED BRONZE SHELL
FORGED STEEL HEAD
OIL RINGS
SAMSON BRONZE SHELL RING
CONNECTION FROM FRONT DECKLE ARM TO AIR PASSING RIG
RUBBER SUCTION HOSE TO VACUUM PUMP
INLET FOR AIR PASSING RIG
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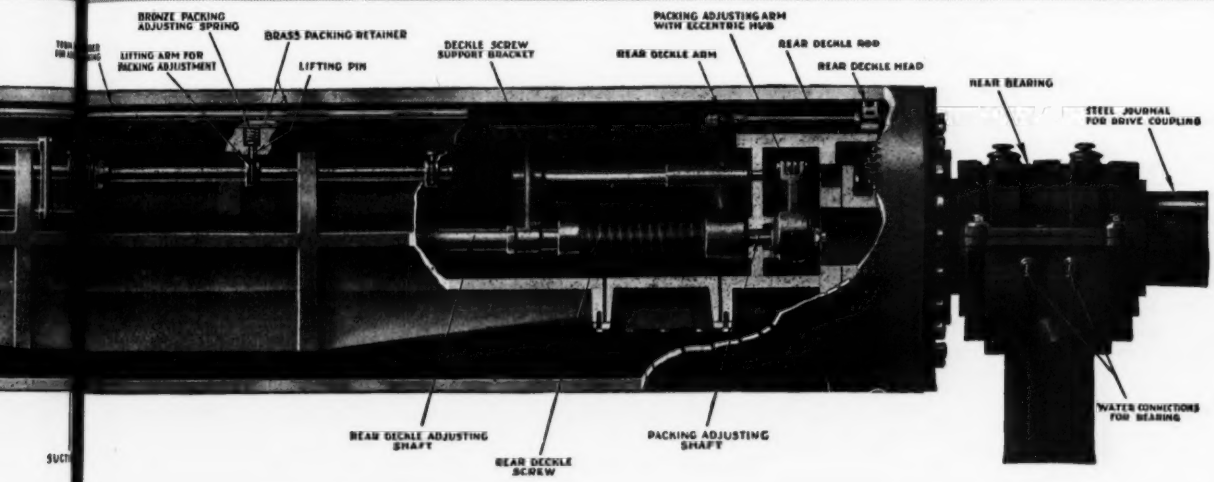

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Fox River Valley Paper Mill Activities

Large New Dam to be Constructed at Crowley Rapids to Meet Increased Power Needs of Flambeau Paper Co., Park Falls—Paper and Pulp Manufacturers Fight Proposed Wholesale Revision of Freight Rates—Croche Dam To Be Rebuilt

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., May 5, 1930.—Increased power needs of the Flambeau Paper Company, Park Falls, Wis., will be met through the construction of a large new dam on the Flambeau River at Crowley Rapids, according to announcement of Guy Waldo, general manager.

Power previously was supplied from the Pixley Dam, located four miles from the new power site, but the amount was not sufficient for the mill, and the steam turbine had to be relied upon to too great an extent. Enlargement of the steam plant was investigated first, and the additional dam then chosen as the most feasible solution.

Plans include the impounding of a 19-foot head of water, as against a 21-foot head at the Pixley Dam. Two water wheels will be installed, and a brick building will be built to house the machinery and provide quarters for the operators. The Pixley dam has four wheels.

Construction work has started, with more than 100 men employed at the job. Power lines have been strung from the Pixley plant to furnish current for the construction machinery. A summer camp has been opened for the workmen and their families.

Proposed Freight Rate Revision Opposed

Wisconsin's fight to prevent a wholesale revision of freight rates and in fact an actual suspension of the present tariffs in favor of new class rates is growing in intensity and is attracting new supporters. The battle at first was with the Central Freight Association, but now the Southern and Southwestern carriers are asking for a re-opening of what is known as the Minnesota and Ontario case and the Fox Paper case, all relating to freight rates on paper from cities in Wisconsin to the south and southwest.

When the latest proposal came to the front to wipe out all commodity rates on paper and paper articles in Southeastern and Southwestern territories and establish a class rate basis for all shipments, a meeting of some three hundred shippers was held in Chicago to discuss the situation. Shippers feel they will be excluded from the entire southern section of the country by the drastic changes proposed. It was pointed out also that the class rates in Central Freight Association territory are now involved in hearings before the commission, and as a consequence the establishment of a class rate basis would leave them in the position of not knowing what the final rate would be. The carriers propose to move pulp board, wrapping paper, and news print on eighth class, or 30 per cent of first class.

Because it believes re-opening of the Minnesota and Ontario case is an attempt to annul decisions of the Interstate Commerce Commission and put the matter directly in the hands of the carriers, the International Paper Company has come to the support of Wisconsin mills. This company was an intervener in the original case and has now filed a petition in reply to the southeastern carriers. Its brief states that the 42½ cent rate on wrapping paper from the Fox River group in Wisconsin to Memphis Tenn., a distance of 680 points, is not sub-normal as the carriers charged, but is 10 cents higher than the full sixth class C. F. A. territory rate for the same distance. The C. F. A. rate is 32½ cents for 680 miles. The 53-cent rate from the Fox River Valley group of Wisconsin, with Appleton as a representative point, to New Orleans, a distance of 1,080 miles, is likewise higher by 10½ cents than the C. F. A. rate.

Both rates are pointed out to be higher than the New England scale of rates on news print paper for more than the 1,000 miles to Chicago. This scale is 38½ cents, as compared to 43½ cents for the 1,080 miles to New Orleans. Wrapping paper rates should be somewhat higher, the International says, but cannot reconcile them with the claim of "ridiculously low" rates, claimed by the carriers.

Southern carriers, since they became aggressors with the Central association, are opposed by both the Minnesota and Ontario Paper Company and the Wisconsin Paper and Pulp Manufacturers Tariff Association. The petition of the latter asserts that the request to reopen the case is an attempt to set aside the decision of the Interstate Commerce Commission on rates fixed eight years ago, and violates the spirit and purpose of the act. It is contended also that the petition should be denied because the "petitioning lines are southeastern territory, and the decision (in the old case) involved no rates south of the Ohio or east of the Mississippi." The rates applied exclusively to western trunk line and the northern part of the southwestern territory.

News of the Industry

The Edgewater Paper Company, Menasha, Wis., will be exempted from municipal taxes for five years on a $20,000 building 60 by 76 feet in size which is to be built at once. This was done by the city council to aid in the expansion.

Need for additional office space has caused the Kimberly-Clark Corporation, Neenah, Wis., to remodel the fourth floor of its experimental mill for this purpose. The entire accounting department will be moved to this location.

Harry Fletcher Lewis, one time research chemist for the National Analine Chemical Company, Buffalo, N. Y., has been engaged as professor of organic chemistry on the faculty of the Institute of Paper Chemistry at Lawrence College, Appleton, Wis., according to announcement of Dr. Otto Kress, director. He will join the institute staff in September.

S. F. Shattuck, vice president of the Kimberly-Clark Corporation, will be chairman of a seminar on "Human Relations in Industries," to be conducted for the first time next season at Lawrence College, Appleton, Wis. The seminar will be held two evenings a week with various professors leading, to "attempt to meet one of the most current objections raised against college trained men; namely, that they are unable to offer solutions in spite of their ability to gather the facts."

Damage amounting to $15,000 was done to the plant of the Grandfather Falls Paper Company, news print mill at Merrill, Wis., last week. The roof was badly damaged and operations were suspended for the remainder of the week. Forest fires also were prevalent in several sections of Wisconsin due to dry weather and an especially threatening condition obtained in the Moquah federal forest, where the government had just approved the transfer of property and the planting of trees. Rangers succeeded in stopping progress of the flames and rains also came at a fortunate time.

Daylight saving schedules have been adopted by the Nekoosa-Edwards Paper Company at both of its large mills located at Nekoosa and Port Edwards, Wis. The plan will continue for the entire summer season.

Approximately $100,000 will be spent by the United States government in rebuilding the Croche Dam on the Fox River near Wrightstown, Wis. A contract for materials to the amount of $25,000 has been let to the Wells Coal and Dock Company and work will be started at once.

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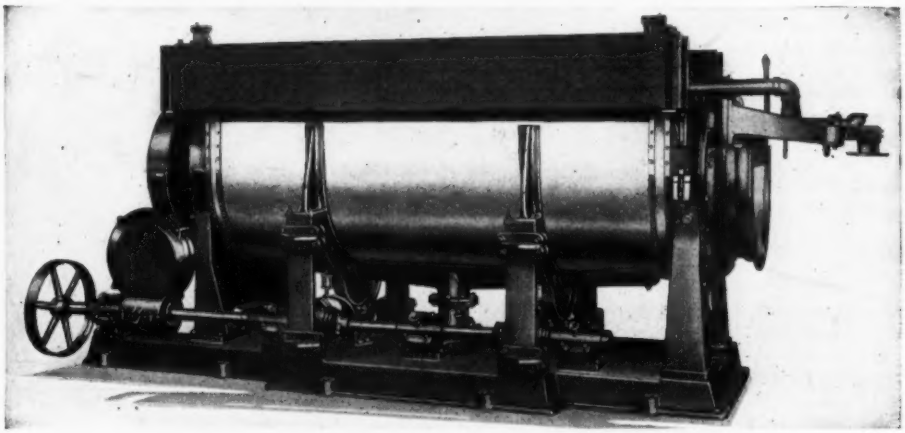

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Pennsylvania Paper Mills Improving Plants

In Preparation For Larger Operations Next Fall, Some Manufacturers Have Already Completed New Installations, While Others Are In Progress of Construction — Some Improvement Noticed In Demand For Standard Grades—Kraft Market Continues Weak

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., May 5, 1930.—The trend of business shows an upward swing that is more encouraging to the distributors who have been drifting along in the confusion of price adjustments that are particularly trying to the dealers in the wrapping paper division. While business is slightly better no broader trading is anticipated until late summer but distributors do feel that there will be continued improvement on a small scale for the remainder of spring time and until the summer quietus sets in with the advent of hot weather and the vacation period.

Quaker City dealers are resentful of the kraft disturbance and are proclaiming their position in the matter of harmful influences which have resulted in lower quotations that have been made on krafts with another slight reduction reported in the week. In the rounds of the trade the kraft situation is soundly scored by the distributors who desire to give their opinions to the PAPER TRADE JOURNAL in the hope of voicing their resentment of conditions which have so demoralized the wrapping paper market at this critical time when it was so necessary to retain prices in order to make the profit that might have come with a stabilized price grading for the amount of paper that is being consumed.

Prominent paper dealers in the wrapping paper division desire a steady price valuation that will enable the distributors to conduct their business with assurance that further inroads will not be made before deliveries of the orders already placed—a situation that now prevails and which places the dealers in a quandry as to what to expect from the mills in the next step taken in the price warfare. Large wrapping paper houses will not stock kraft in quantities while this situation prevails.

Not only are kraft wrapping papers affected by the price warfare but also the bag market. There has been a reduction of from 25 to more than 30 per cent in the price of wrapping kraft and bags within the period of three months that the price slashing has been in vogue.

While demands for fine papers are of the hand to mouth type there is no wide open break in prices. There is broader consumption of small lot buying and strong competitive bidding for orders but prices are not shrinking to any extent and the mills have been co-operating with the trade in restricting production to meet the business situation as indicated by the stabilized quotations that are offered. There has been a broader demand for announcement stocks and some of the unfinished grades of book paper of the better sort but the cheaper lines are not active and show lagging interest on the part of consumers.

Manufacturers are preparing for larger operations in the Fall as they overhaul plants and make improvements to meet the needs of modern equipment in mechanical units and electrification. Several of the manufacturers are now looking about for bids on new units in the way of power supply which will facilitate economies and provide for better services in manufacture and in production. A few have already completed installations while others are nearing completion and will be ready for operation after the summer months have passed. The present dullness gives opportunity for innovations that must be made in the modernizing of plants and the mills are alert to the needs of the day and are planning accordingly for better times to come.

Paper Trade Association Discusses Kraft

Outstanding in the activities of the quarterly meeting of the Philadelphia Paper Trade Association held last Friday at the Down Town Club, was the open forum discussion of the business situation of today. Frank Floyd, executive secretary of the National Paper Trade Association, was a guest. Mr. Floyd talked on general conditions, stating that fine papers were in much healthier condition than wrapping papers with stabilized prices holding the trend toward safer and fairer profits for the fine paper branch of the industry in the narrow trading range which the present day offers the distributor and the manufacturer.

In summing up general conditions he said that the business situation was brighter and that he believed that the depression was striking bottom and that business was now ready for the turn towards steady improvement. He stated that in the whole history of his many years experiences and contact with the paper industry he never witnessed a similar situation in the kraft market. In no branch of the paper industry had such conditions ever existed in his memory of contact with the trade and he hoped for a speedy remedy for the confused markets which gave so much uncertainty to the wrapping paper division. He felt that the sooner such conditions were cleared up the surer would be the outlook for improvement in the wrapping paper business.

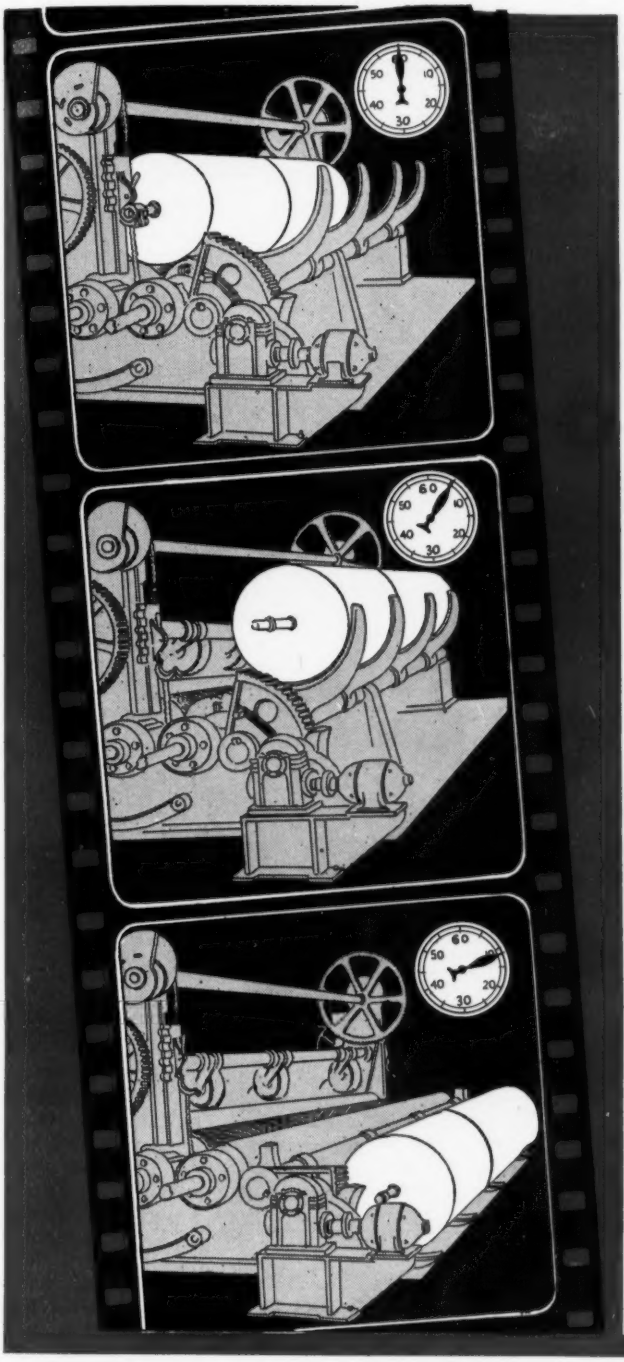
Mill Superintendents Association Plans Convention

Plans for the annual convention of the Mill Superintendents Association of the American Pulp and Paper Industry, to be held at the Benjamin Franklin Hotel, 9th and Chestnut streets, from May 29 to 31 inclusive, call for several interesting and entertaining tours of local plants of manufacturing concerns and paper mills linked with the industry in a national prominent contact.

On May 29, the program calls for a trip by boat chartered from the Wilson Line and accommodating 4,000 passengers, down the Delaware River to the plant of the DuPont Company, in Wilmington, where the superintendents and other conventionites will be entertained by the officials of the corporation in a tour of the entire plant and will then be conveyed to the site of the Pusey and Jones Company, paper machinery manufacturers, along the waterfront and there will be conveyed over the many buildings housing the plant by executives of the company and later will be shown the plant of the Jessup and Moore Paper Mills, also located in Wilmington, Del., as guests of that company.

There will be an orchestra furnished aboard the boat and a program of dancing while the trip down the Delaware is made. In the evening a dinner and dance at the DuPont Hotel in Wilmington. On Friday there will be sight seeing tours of the Quaker City, taking in the historical sites of Independence Hall and other interesting places, with a trip to Valley Forge for the ladies. Throughout the day there will be tours to various paper mills in the city, including the Container Corporation of America, the Dill and Collins Mills, the McDowell Paper Mills, the MacAndrews and Forbes Company of Camden and other places of interest to the trade.

An especially appealing program in the way of business talks by prominent speakers is being formed and will be announced later. It will include topics that will be both educational and interesting in the modern methods of paper making and innovations in the way of mill equipment and devices and in the management of paper mills. Preparations are for an attendance of 700 or more. President James Garfield Ramsey, superintendent of the Jessup and Moore Paper Mills, will preside as head of the Mill Superintendents Association. The committees in charge of the arrangements are J. Bertwell White, National Vulcanite Company, Yorklyn, Del., chairman, convention committee; Joseph E. Plumstead, Jessup and Moore Paper Company, Wilmington, Del., chairman,



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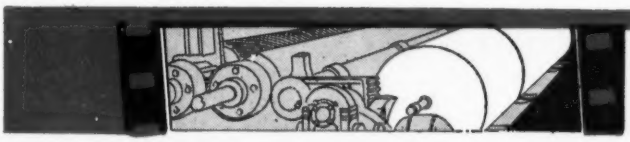

general finance committee; Roy H. Underdown, Heller and Merz Company, Philadelphia, chairman, arrangements committee; Frank E. Winslow, General Electric Company, manager for Philadelphia District, chairman, program and entertainment committee; Mrs. Joseph H. Dow, chairman, registration committee; H. L. Joachim, Container Corporation of America, chairman, transportation and mill visiting committee; Joseph H. Dow, Eastwood Wire Company, chairman, golf committee; John Bingham, Dill and Collins Company, chairman, reception committee; and Mrs. James G. Ramsey, chairman, ladies entertainment committee. Dr. Manley P. Northam, of the National Vulcanite Fibre Company, will talk on Human Engineering. There will be held at the Benjamin Franklin Hotel the annual banquet on the evening of May 30. The business sessions will be scheduled at the Benjamin Franklin throughout the three days of the convention.

Bureau of Envelope Manufacturers to Convene

The annual convention of the Bureau of Envelope Manufacturers which comprises a membership of the leading envelope manufacturers of the United States in the East and Middle West will be held at White Sulphur Springs, Va., during the week of May 19. Leo F. Supple and Allen E. Whiting, of the Whiting Patterson Company, will attend the convention. Envelope manufacturers from New England and Middle West states as far as Kansas City will attend in a representation of the largest manufacturers in the sections.

Morgan H. Thomas Improves

Trade associates and friends of President Morgan H. Thomas, of the Garret Buchanan Company, 16-24 South 6th street, learned of his successful recovery from a recent operation at the Bryn Mawr Hospital. It will be some time before he will be able to leave the hospital for his home as other minor operations are to be made before he is able to be removed to his home.

D. L. Ward Co. Exclusive Distributor of Linweave

With the retirement of the Raymond and McNutt Company from the distribution of the Linweave line of announcements and social stationery in weddings, calling cards and other papers, manufactured by the P. P. Kellogg Division of the United States Envelope Company, the D. L. Ward Company, 28 South 6th street becomes exclusive Philadelphia distributors of the Linweave products.

Tomahawk in Hands of Receivers

Under an order issued by the circuit court of Lincoln County, Wis., affairs of the Tomahawk Pulp and Paper Company, Tomahawk, Wis., have been placed in the hands of a receiver. The company is owned by C. B. Pride and sons. The mill has been closed for some time as the result of difficulties and its ninety employees have been idle. When it became evident that matters could not be worked out satisfactorily, the First Trust Company, of Appleton, Wis., requested the receivership and the Wisconsin Valley Trust Company was appointed in that capacity. All creditors have been notified to file their claims before Dec. 17, 1930. A hearing on the claims will be held Jan. 5, 1931. Future operation of the plant is considered problematical at the present time.

Paper Board Men To Meet in Chicago

The next meetings of the Paperboard Industries Association and of the Trade Practice Division will be held at the Drake Hotel, Chicago, May 20 to 22 inclusive.

Members of the Paperboard Industries Association are eligible to attend the meetings of the Group or Groups in which they are enrolled, and also the General Meeting, a part of which consists of the Trade Practice Session.

Members of the Trade Practice Administration are eligible to attend the Trade Practice Session, which is held as a part of the General meeting, Thursday morning, May 22, 1930.

Paper Technologists Club Meeting

The final program of the interstate meeting of the Kalamazoo Paper Technologists Club has been announced by Arthur C. Dreshfield, chairman of the publicity committee, as follows:

FRIDAY, MAY 23, 1930

10:00 a.m. (Eastern Standard Time)—Registration
1:00 p.m. Luncheon and joint session with the Cost Association—Harry Bradford presiding.
Address, "Safety as a Factor in Reducing Costs," by J. A. Purdy.
2:00-5:00 p.m. Technical Session—V. G. Hinemueller, presiding.
Paper, "Corrugated, Pressed or Shredded Pulp," by R. J. Egan.
Paper, "Method for Determining Water Soluble Materials," by Th. C. Bentzen.
Paper, "Some Recent Jordan Experiments," by G. S. Brazeau.
Paper, "Proximate Analysis of Technical Men," by R. G. Macdonald.
7:00 p.m. Informal Banquet—E. F. Whittington, presiding.
Toastmaster—George Maye.
Speaker—Alfred Green.

SATURDAY, MAY 24, 1930

8:00-11:30 a.m. Mill Visits or Golf.
12:30 p.m. Luncheon and Joint Session—W. K. Kidder, presiding.
Address, "Relation of the Cost and Technical Men to the Production Man," by R. A. Hayward.
2:30-5:00 p.m. Technical Session—Carl Schneider, chairman.
Paper, "Responsibilities of Chemist to Inspection of Finished Paper," by M. D. Bardeen.
Paper, "Testing Paper for Permanence," by Jessie E. Minor.
Question Box (Any question relating to manufacturing operations will be considered).
6:00 p.m. Dinner—Elbert G. Milham, presiding.
Toastmaster—Carl Handy.
Speaker—Harry C. Howard.

All meetings will be held in the Park American Hotel.

Reforestation Work in Oneida County

[FROM OUR REGULAR CORRESPONDENT]

UTICA, N. Y., May 5, 1930.—The reforestation committee of the Oneida County Board of Supervisors has voted to establish forest plantations in various sections of the county this spring. The members recently attended a forestry school at Cornell University where they studied the reforestation program and the decision to establish plantations was reached recently. A survey has also been made of all lands in the county suitable for forest plantations under the supervision of a state expert.

It was also announced that the state had approved the plan and half the expense of planting is to be borne by that department and the other half by the county. The local branch of the Izaak Walton League is also sponsoring the movement and members of this organization have suggested that a forest plantation be established in Steuben. It is probable that the work will be carried on under the direction of an expert from the State College of Agriculture at Ithaca.

Paper Trade Journal Oct. 27, 1927 Requested

The Institute of Paper Chemistry, Appleton, Wis., in order to complete its back files, is anxious to obtain a copy of the issue of the PAPER TRADE JOURNAL of October 27, 1927. Anyone in the industry who can supply this back number of the PAPER TRADE JOURNAL will be conferring a kindness that will be greatly appreciated by sending it direct to Dr. Otto Kress, technical director of the Institute of Paper Chemistry, Appleton, Wis.

ONE BY ONE, the great industries of America are turning to capable engineering contractors to take over the details of their plant expansion and development. Ferguson engineers—with experience in large industrial projects of many kinds—can meet any manufacturer on his own ground—grasp his production problems and give him the answer in the form of a complete plant, ready for work. Every detail of the job, from the location of the plant and the first rough sketch of the plans to the completely equipped structure, is handled in one organization, under one responsibility, and with the owner's satisfaction *guaranteed.*

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More than 8,000 of the country's leading executives are regular readers of the Ferguson Cross Section—a monthly magazine dealing with timely business and engineering topics. A request on your letter-head will bring it to you gratis.

Ontario Paper Manufacturers Fairly Active

Many Fine Paper Machines Are Running Full Time With Output Being Freely Absorbed by Consumers—Book Paper Plants Are Generally Well Booked Ahead — Coating Mills Only Moderately Busy—Board Paper Mills Operating on Light Schedule

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., May 5, 1930.—Slightly improved business conditions generally throughout the province continues to reflect itself in the wholesale paper trade, although sales are still of the small order variety and volume is much lighter than it should be at this season of the year. However, it is admitted that there is a better tone to the fine paper market, especially, and the feeling prevails that really good business is just around the corner. Paper distributors generally, while declaring that business has to be gone after strong just now in order to make a decent showing, are confident that a good volume of business will develop before the holiday season sets in, and in this eventuality the present year should, at its close, produce a turnover that will equal that of last year.

This, however, will be largely contingent upon the extent of the general business revival that is anticipated this summer. In the meantime fine papers are meeting with only a fair demand as a whole, although in the case of book and coated stock quite good tonnages are being disposed of. On the other hand the coarse paper market is rather dull and seems to have suffered considerably by reason of light trade of late among the retail stores which have cut down their requisitions for wrappings and paper bags. In most paper lines both domestic and outside competition is being felt and in some departments of the paper trade local wholesalers have been up against American houses which have dumped stock into Canada to be sold at prices the domestic distributors are finding it hard to meet.

Manufacturing activities continue at a fairly satisfactory level and while not all the fine paper machines are running full time many of them are and the products are being disposed of in anticipation of what is hoped will be a good catalog and book season now shortly due. Book paper plants are well booked ahead and there is a fair amount of business booked for the coating mills. In the latter product there has been a distinct improvement in demand of late. Coarse paper plants are only moderately busy, and while the call for wrapping paper and bags continues light, the kraft market is showing a good degree of strength, with good tonnages being disposed of in both eastern and western Canada.

Board mills are operating lightly largely as a result of overproduction and quiet conditions prevailing in the paper box industry. The paper box trade has been quiet since the first of the year with most of the plants running on short time with a resultant falling off in demand for box board. Folding, set-up and corrugating plants are all showing the effect of backward business conditions and there is no immediate prospect of improvement. The situation in the board and paper box industries has resulted in light demand for paper stock from the collectors who report a dull market for waste paper.

In the realm of light weight paper manufacture conditions are satisfactory with a good call for tissues, toilets and general light weight paper specialties. The paper flower trade, for instance, has had quite a boom this year and has accounted for a big increase in the sale of tissues, while the paper towel and napkin specialty trade has kept up well. On the other hand the paper converting trade is operating lightly with a reduced demand for manufactured stationery and only a moderate call for envelopes and blank forms and books.

Ontario Pulp Market Quiet

With an over-production in both bleached and sulphite the chemical pulp market in Ontario has been dull for some time, while there has been the further disability of importations of foreign pulp which has made competition very keen. As far as ground wood pulp is concerned the buying mills are pretty much all grinding now and as the season is now here when water facilities are good the paper companies are manufacturing their own pulp. None of the mills are carrying any stocks of size of either chemical or ground wood and as a result of the freedom with which supplies are available prices have sagged somewhat. While the prevailing price for ground wood f.o.b. mill is from $30 to $32 it is understood that some sales have been made of late below the thirty mark. Bleached sulphite, also, has fallen off in price and can now be bought at from $72.50 to $75.00 a ton. Sulphite new grade is still selling at around $60 and easy bleaching at the same figure.

Noted Paper Case Judgment Soon

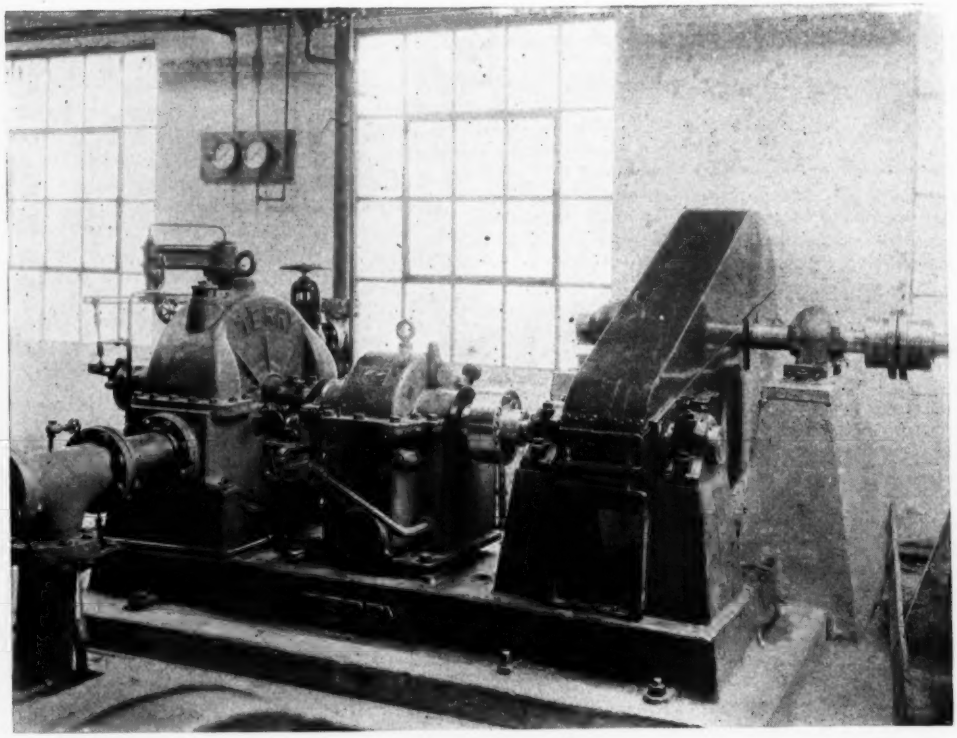
It is expected that a decision by the Privy Council in the noted case of the Fort Frances Paper Company *vs.* the Spanish River Paper Mills, Ontario Paper Company, and fourteen other mills, arising out of news print control during the Great War, will be given some time during May and it is being eagerly looked for in pulp and paper circles. During the war news print was rationed to publishers through a controller appointed by the Government and later through a paper control tribunal. In Canada the manufacturers agreed by written contract among themselves that news print should be furnished to Canadian publishers through selected mills, since by the operation of the pro rata provision of the contract it would not be convenient for each mill to produce and distribute exactly its pro rata quantity.

The Fort Frances mill produced the major portion of news print required by the newspaper publishers of Canada, and delivered it to those publishers in the early months of the contract at $50 per ton. The life of this contract was for three months and each manufacturer agreed to pay his pro rata loss, the price being under the market established by the price obtained through export to the United States. This condition developed through the application of publishers who found it difficult to obtain a supply of news print in 1916 owing to war conditions, and their application to the Dominion Government for relief.

The Government held conferences with the manufacturers, the result of which was the agreement specified that news print would be supplied for three months at $50 a ton, and it was understood that those manufacturers who supplied more than their pro rated share should be compensated for their loss by those manufacturers who furnished less than their share. Under news print control prices were periodically raised until the much-quoted price of $69 a ton was reached, which price, it was claimed was lower than prices charged and paid in the United States. The controller and paper control tribunal made orders adjusting the amounts to be paid to the Fort Frances Pulp and Paper Company up to December 31, 1917, and these amounts were duly paid by the companies that had furnished less paper than their pro rated shares. But the amounts due Fort Frances Company for any subsequent period were not ascertained, because the companies concerned—or some of them— refused to furnish to the controller any information for such subsequent period as to their total sales of news print and the quantities sold, and the prices realized therefore in Canada and the United States respectively, and the amounts payable in respect of such periods could not be ascertained without this information.

Action against the sixteen news print companies was commenced by the Fort Frances Pulp and Paper Co. in December, 1923. The trial of the case was in May, 1927, when it was found

TERRY
Paper Machine Drive



85 H.P. drive in an Eastern Mill.
Replaces a reciprocating engine

NEW LIFE FOR THE OLD PAPER MACHINE

The Terry drive in addition to being used with new paper machines has been employed extensively with older units.

Among its many advantages in cases of this kind are its ability to operate at higher paper speeds and its wide speed range. It also gives uniform regulation, clean exhaust steam for drying, power at low cost and highly dependable operation.

Terry engineers have accumulated a considerable amount of important information on applying new drives to old machines. Let them help you.

T-1055

The TERRY STEAM TURBINE COMPANY
TERRY SQUARE, HARTFORD, CONN.
Steam Turbines - Gears - Shaft Couplings

that the plaintiff had not been fairly dealt with, although the Court stated it had no jurisdiction in the matter. The action was dismissed and appeal taken to the Divisional Court which in turn dismissed the case with costs to be paid by the plaintiff. Then in September, 1929, the appellant company asked for consent to appeal to the Privy Council in England and got it, the higher court having been considering the matter since that time. The brief as submitted to the Privy Council constituted 454 pages, about half being court proceedings and half the exhibits filed in court.

Affairs of Canadian Paperboard Co.

The bond holders and their creditors of the Canadian Paperboard Company, Ltd., with plants at Toronto, Campbellford and Frankford, will probably forego pressing technical claims and creditors will consider accepting a cash dividend of 5 per cent for their interests in the receivables and loss chattels. Under this arrangement the trustee, F. C. Clarkson, thinks that the undertaking can be continued with the possibility that the business can be organized with the creditors retaining their rights to 95 per cent of their claims. At any rate, in the meantime, they will have the business which the receiver will be able to offer with continuation of operations.

The nominal book equity available for ranking creditors is $1,667,681. This is made up of $2,890,245, being the nominal appraisal of the company's four mills; $91,405 receivables, and $20,500 investments. Against these assets of $3,002,151 there are unsettled accounts for which liens are claimed totalling $25,784 and claims of $15,516 of a general character, such as wages, which are required to be paid in order to maintain the company as a going concern. In addition, $1,293,170 is due the bondholders. The trustee explained that there was a possibility of contention between the boldholders and creditors as to the ownership of the equity in the receivables and the removable chattels, which, together, have an estimated value of $102,500. To avoid litigation he suggested that each party take half of this, or $51,250. Unless such an arrangement were immediately effected whereby this issue could be cleared up and the business of the company carried on, he feared that the assets of the company would have to be sold.

New Towers To Protect Forests

To better cope with the forest fire menace in the Thunder Bay district, additions to equipment and new improvements have been authorized by the Ontario Government, according to an announcement made this week at the Port Arthur headquarters of the forestry branch of the Ontario Department of Lands and Forests. Three steel observation towers, among the first to be constructed in the district, will be located, one at Jackfish Island in Lake Nipigon, one at or near Hurkett, on the boundary between the townships of Stirling and Hele, and the third at Whitefish Lake. The tower at Hurkett will be connected by telephone with the line near the gate of the Provincial Paper Company's workings. The tower at Whitefish Lake will have telephone communication direct with headquarters. Two headquarters for the deputy chief rangers will be established and constructed at Kashabowie and at Whitefish.

Notes and Jottings of the Trade

Vancouver Box Company, Ltd., has just been incorporated at Victoria, B. C., under the Provincial Companies' Act. The firm is capitalized at $20,000 and has its registered offices at 402 Dawson Building, 193 East Hastings street, Vancouver. The firm is described on its articles of registration as manufacturers of paper boxes and allied articles.

The Technical Section of the Canadian Pulp and Paper Association will hold its annual summer meeting in Ottawa on June 12 and 13. There will be a special meeting on June 12 and on the following day a visit will be paid to the pulp and paper mills in the Ottawa district. The business sessions will be held in the Chateau Laurier. Many of the members will be accompanied by their wives and families and arrangements have been made for a golf tournament.

TIMBER CONSERVATION BOARD

(*Continued from page 21*)

2. Based economic causes of the prevailing condition of overproduction of forest products and consequent waste of timber, depletion of forest resources, and insecurity of employment in the forest industries? Possible remedies in terms of public and Governmental policy? Federal and state legislation? Industry action?

Present method of annual property taxation of timber and forest lands and its economic consequences as a deterrent to conservation or a stimulus to premature cutting of timber.

3. The commercial and industrial policy of the United States Government in its capacity as the largest single owner of timber? The use of publicly owned forests to promote the general practice of "sustained yield" cutting of timber. Sale and use of publicly owned timber, especially National forests, Indian timber reserves, and State forests in relation to the production control problem? Needs, if any, for additional public forest land acquisition?

4. Appraisal of relative importance of public forestry projects and of annual Federal and State forestry appropriations in so far as these may have a bearing upon the supply and use of forest products.

II. *Functions:*

Three functions are proposed, namely:

1. Fact-finding.
2. Report and publication of findings.
3. Recommendations of National policy.

III. *Constitution:*

We believe a desirable plan reasonably commensurate with the public importance of these proposed objectives will warrant the appointment of a Commission or Board, including outstanding men, drawn from the general public, the conservation movement, the forest industries; and representatives of Government—preferably the Secretary of Commerce, the Secretary of Agriculture, and the Secretary of the Interior.

IV. *Facilities:*

Presumably there will be readily available the facilities of the Department of Agriculture, United States Forest Service; also the facilities of the Department of Commerce, and of the Department of the Interior.

Similarly the facilities of the organized forestry industries are available; and undoubtedly those also of forest schools and colleges, certain research foundations, and probably the farm organizations.

Advisory committees appointed by a National Timber Conservation Board, constituted as proposed, will readily command the donated time of the best specialized talent available in the conservation movement, and in the wood-using industries and it is hoped, in the Public Service also.

V. *Personnel:*

Probably an executive personnel with staff assistants of from two to four will be desirable. Convenient housing and necessary clerical assistance, no doubt, are readily available at no additional expense.

VI. *Cost:*

The total direct cost, as estimated, should not exceed $40,000. Outstanding men would, at the President's invitation, serve more readily on a "dollar a year" commission than they would for any salary which the Government may pay.

VII. *Time:*

Eighteen months.

Production Index for Paper Lower

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 7, 1930.—The production index for the paper industry for March was 124 compared with 125 for February and 125 for March of last year taking 1923-1925 at 100 according to the Department of Commerce.

American Writing Paper Co. Makes Good Report

HOLYOKE, Mass., May 5, 1930.—An increase of 78 per cent in net profits of the American Writing Paper Company, Inc., for the first three months of 1930, as compared with the same period of 1929, is shown by the company's quarterly statement, released today.

Commenting upon this increase in profits, Sidney L. Willson, president of the company, said:

"The business of the American Writing Paper Company, Inc., for the first quarter of 1930 showed earnings after interest, depreciation and Federal taxes, of $127,414.38 as against $71,571.31 for the same period of last year. This 78 per cent improvement in the net results provides earnings equivalent to $1.42 per share on the outstanding preferred stock as compared with 80 cents per share earned during the same quarter of last year. This better condition is explained by the larger sales of the better grades of paper, coupled with economies resulting from past expenditures for rehabilitation and the operation of a more efficient control system.

"I do not look for any radical change in business conditions, nor do I look for any recession. I believe that the depression in business has been checked, and that, if any change occurs, it will be for the better."

The balance sheet as of March 31, 1930, shows total current assets of $4,307,782.17, with current liabilities of $680,007.17.

INCOME AND EXPENSE

For the Three Months Ended March 31, 1930 and 1929

	1930	1929
Net Sales to Customers	$3,062,395.28	$3,182,939.08
Paper Sales to Divisions & Depts.	25,441.90	42,821.27
Total Income from Sales	3,087,837.18	3,225,760.35
Manufacturing Cost of Sales Billed		
Raw Materials Consumed	1,562,947.66	1,461,398.48
Conversion Supplies Consumed	42,537.96	43,368.90
Direct Labor	361,015.56	335,327.25
Direct Mill Expense	156,041.69	180,229.82
Direct Shipping Expense	111,199.78	110,823.17
Light, Heat and Power	238,222.66	233,336.11
Maintenance	94,285.38	85,323.30
Taxes	30,726.29	29,983.36
Insurance	3,585.29	3,353.88
Depreciation	63,083.03	57,058.04
General Indirect Mfg. Overhead	70,122.19	58,160.92
Announcement Line—Labor & Overhead	.....	27,992.37
Increase* or Decrease† in Inventories	* 14,977.02	†248,649.67
Broke. Recovered	*120,340.38	*112,547.30
Total Mfg. Cost of Sales Billed	2,598,450.09	2,762,457.97
Gross Profit	489,387.09	463,302.38
Administrative	58,456.52	71,299.08
Selling	219,330.49	234,296.91
Total Administrative & Selling	277,787.01	305,595.99
Operating Profit	211,600.08	157,706.39
Other Income	45,011.55	41,623.18
	256,611.63	199,329.57
Income Charges	32,137.07	36,008.54
	224,474.56	163,321.03
Bond Interest	81,312.33	81,990.00
Profit before Federal Taxes	143,162.23	81,331.03
Reserve for Federal Taxes	15,747.85	9,759.72
Net Profit	$127,414.38	$71,571.31

BALANCE SHEET—MARCH 31, 1930

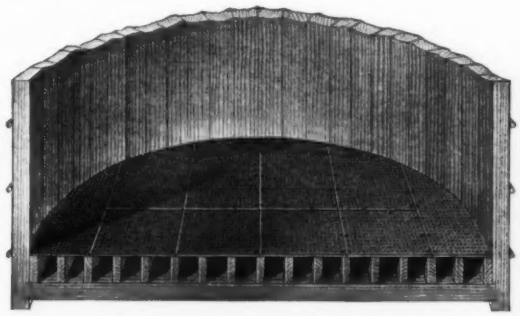
ASSETS	March 31, 1930	March 31, 1929
Current Assets		
Cash	$779,392.76	$1,229,897.40
Notes and Acceptances (Net)	87,744.14	22,507.24
Accounts Receivable (Net)	1,231,237.60	1,360,166.34
Inventories	2,209,407.67	1,986,677.81
Total Current	4,307,782.17	4,599,248.79
Plant and Equipment (Net of Depreciation)	11,557,233.12	11,313,659.12
Investments	417,600.22	407,600.22
Prepaid Expenses	75,845.14	103,048.31
Deferred Taxes	0	0
Other Deferred Assets	10,826.89	13,485.25
Trade Marks, Etc.	1.00	1.00
Payable on Common Stock in Escrow for Options	66,750.00	66,750.00
Total Assets	$16,436,038.54	$16,503,792.69

LIABILITIES		
Current Liabilities		
Accounts Payable	$444,339.95	$428,065.21
Accrued Accounts	183,993.15	179,203.73
Reserve for Federal Taxes	51,674.07	43,304.36
Total Current	680,007.17	650,573.30
First Mortgage Bonds	5,500,000.00	5,500,000.00
Less: In Treasury	109,000.00	34,000.00
Serial Notes	525,000.00	700,000.00
Less: In Treasury	67,900.00	90,000.00
Total Fixed	5,848,100.00	6,076,000.00
Net Worth		
Preferred Stock V. T. C... 90,000 shares		
Less: In Treasury ..... 734.4239 shares		
Common Stock V. T. C...200,000 shares		
Less: In Treasury ..... 2,748 shares		
Less: In Escrow for Options ..... 9,175 shares		
Capitalization	9,345,322.33	9,345,322.33
Surplus	435,194.66	360,325.75
Profit—Current	127,414.38	71,571.31
Total Net Worth	9,907,931.37	9,777,219.39
Total Liabilities	$16,436,038.54	$16,503,792.69

Perforated Metal Drainer Bottoms

Innumerable paper mills throughout the country are coming to regard the astonishing big savings made possible with perforated metal drainer bottoms, made by the Nortmann-Duffke Company, of Milwaukee, Wis.

This new metal drainer is made of perforated chrome nickel iron sheets designed for greater efficiency by replacing the old-style drilled wooden drainer blocks which have long been a source of costly troubles.



Typical Installation of Perforated Blow Pit Drainer Bottom

The metal drainer is not affected by the hot sulphite solution and will not clog or permit the loss of fibers. It is perforated with small holes. The nickel chromium alloy metal is non-corrosive, need not be replaced, and is fastened securely to the present joists.

Paper Mill Employment Decreases

WASHINGTON, D. C., May 3, 1930.—There was a decrease in both employment and payrolls in paper and pulp mills in March compared with the previous month according to the Bureau of Labor Statistics, Department of Labor.

Reports were received by the Bureau from 203 paper and pulp mills which gave their February employment at 59,976 decreasing in March to 59,679 a decrease of 0.5 per cent. The payrolls in these mills also decreased from $1,653,948 in February to $1,642,211 in March a decrease of 0.7 per cent.

The Bureau also received reports from 188 paper box factories which gave their February employment at 19,045 decreasing in March to 18,990 a decrease of 0.3 per cent. The payrolls in these factories on the other hand increased from $433,006 in February to $437,792 in March an increase of 1.1 per cent.

Paper and Paper Board Manufacture for 1928

This is the first of a series of biennial reports for the even-numbered years alternating with the years covered by the biennial census of manufacturers prepared by the Bureau of the Census of the U. S. Department of Commerce in cooperation with the Forest Service of the Department of Agriculture. The two series will provide detailed production statistics for consecutive years.

State Statistics

Table 2 gives production figures for the leading items for each State, so far as they can be shown separately without disclosing the production of individual establishments. If the principal item for any State can not be shown separately, the total only is given. Where it is possible to give figures for the principal item in any State, this is done; and in such cases figures are also given, if possible, for the items ranking second, third, etc., in importance; but all items which can not be shown without disclosing the production of individual establishments and all items of less importance than the most important item which can not be shown separately, are combined and presented as "Other." The least important item for which figures are given separately is, therefore, of greater importance than any item included in "Other."

Table 3 shows the number and the capacity of paper machines by type and by kind of paper made. The specific instructions for preparing the individual returns were as follows: "Where the same machine is used for producing more than one kind of paper, report the number and the rated capacity opposite the item indicating the kind of paper normally made, disregarding other kinds of paper made incidentally on the same machine." This fact should be considered in any attempt to coordinate the figures for kind and capacity of paper-making machines with the production figures.

The figures shown in Table 4 in the report on paper and paper boards, and in Tables 11 and 12 in the report on pulpwood consumption and wood pulp production, were taken from the Summary of Imports and Exports of the United States, published by the Bureau of Foreign and Domestic Commerce, Department of Commerce, and are included in this report for ready reference. All quantities of pulp and paper have been reduced to tons of 2,000 pounds for convenience in making comparisons.

TABLE 1

PAPER AND PAPER BOARDS—PRODUCTION, BY CLASS, KIND, AND QUANTITY, FOR THE UNITED STATES: 1928 AND 1927

[The schedule used for 1928 did not call for data in as much detail as did that used for 1927, and consequently some of the figures in this table may not be strictly comparable as between the two years.]

Kind	Quantity (tons, 2,000 pounds) 1928	1927
Total	10,403,338	10,002,070
News print, standard	1,415,450	1,516,929
Hanging paper	96,390	112,658
Catalogue paper	138,660	[1] 183,338
Book paper, uncoated	1,334,326	1,269,321
Cover paper	27,043	26,333
Writing paper	550,472	508,808
Wrapping paper	1,467,271	1,525,305
Sulphite	351,786	290,724
Kraft	873,578	637,295
Other	241,907	[2] 597,286
Boards	4,061,803	3,773,608
Container boards	1,984,697	2,100,150
Folding boxboards [3]	947,613	796,216
Set-up boxboards [4]	620,809	444,228
Building boards	80,881	71,235
Binders' board	78,839	51,610
Cardboard	102,602	49,244
Leather board	18,911	24,195
Press board	7,775	6,938
Other	219,676	229,792
Tissue paper	348,174	316,070
Absorbent paper	74,768	63,766
Building paper	566,440	625,589
Other paper	322,541	80,345

[1] Reported as "Poster, novel, news-tablet, lining, catalogue, etc."
[2] Not comparable with figure for 1928 because of changes in classification.
[4] Nonbending.
[3] Bending.

TABLE 2

PAPER—PRODUCTION, BY KIND AND QUANTITY, BY STATES: 1928 AND 1927

State and Product	Quantity (tons, 2,000 pounds) 1928	1927
United States	10,403,338	10,002,070
California	183,923	219,366
Connecticut	180,887	176,707
Boards	171,061	162,601
Other	9,826	14,106
Delaware	37,396	31,453
Illinois	528,138	531,434
Boards	372,675	345,047
Building paper	98,842	115,673
Other	56,621	70,714
Indiana	342,202	336,898
Boards	303,996	292,587
Other	38,206	44,311
Louisiana	238,424	204,428
Wrapping paper	158,838	130,426
Boards	69,159	63,976
Other	10,427	10,026
Maine	987,201	953,907
News print, standard	537,455	507,553
Other	449,746	446,354
Maryland	103,278	108,519
Massachusetts	541,268	539,513
Boards	176,014	173,910
Book paper, uncoated	147,477	147,654
Writing paper	85,412	99,125
Wrapping paper	65,658	64,002
Tissue paper	12,762	12,519
Other	53,945	42,303
Michigan	1,061,358	1,004,391
Boards	612,441	575,303
Book paper, uncoated	166,083	179,771
Wrapping paper	106,579	113,149
Other	176,255	136,168
Minnesota	273,637	281,314
News print, standard	138,035	150,292
Boards	101,592	[1]
Other	34,010	131,022
New Hampshire	200,163	207,421
Wrapping paper	82,646	96,884
Tissue paper	29,350	[1]
Writing paper	22,241	[1]
Other	65,926	110,537
New Jersey	552,963	488,947
Boards	390,189	361,347
Building paper	114,320	75,229
Other	48,454	52,371
New York	1,453,597	1,457,711
Boards	456,440	417,360
News print, standard	248,273	366,473
Book paper, uncoated	173,007	170,870
Wrapping paper	146,358	176,887
Tissue paper	95,441	88,892
Building paper	70,504	62,707
Writing paper	58,735	[1]
Other	204,839	174,522
North Carolina	63,126	[1]
Ohio	894,805	812,212
Boards	478,081	436,212
Book paper, uncoated	211,740	185,992
Building paper	75,195	78,596
Writing paper	55,261	51,108
Wrapping paper	49,660	39,162
Other	24,868	21,142
Oregon	198,397	187,663
Pennsylvania	712,874	716,344
Boards	238,866	230,420
Book paper, uncoated	195,636	192,119
Writing paper	71,141	60,193
Wrapping paper	66,582	63,368
Building paper	65,459	106,079
Tissue paper	48,232	46,071
Other	26,958	18,094
Tennessee	48,538	32,526
Vermont	72,198	87,251
Wrapping paper	33,660	35,100
Other	38,538	52,151
Virginia	219,235	192,864
Wrapping paper	99,800	79,553
Boards	59,860	56,512
Other	59,575	56,799
Washington	309,164	233,200
News print, standard	133,581	112,709
Boards	69,045	[1]
Wrapping paper	60,994	51,713
Other	45,544	68,778
West Virginia	42,907	47,769
Wisconsin	893,017	891,939
Wrapping paper	239,344	268,779
Boards	144,853	142,768
News print, standard	138,351	148,116
Book paper, uncoated	96,212	[1]
Tissue paper	77,044	[1]
Writing paper	65,448	[1]
Catalogue paper	50,405	[1]
Other	81,360	332,276
Other States [2]	264,642	258,293

[1] Not shown separately in order to avoid disclosing the output of individual establishments.
[2] Alabama, Colorado, District of Columbia, Georgia, Iowa, Kansas, Mississippi, Missouri, Rhode Island, South Carolina, and Texas for 1928 and 1927; in addition, Arkansas for 1928 and North Carolina for 1927.

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The hot steaming grinder room need no longer be one of the most troublesome obstacles to mill operation during the summer. Installing a Ross Grinder Exhaust System now will not only cool and clear the atmosphere around your grinders during the hot weather, but it will insure a warm, dry atmosphere during the cold weather that follows. An all year round investment in improved grinder operation.

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Our Bulletin No. 14 gives complete information on Ross Grinder Exhaust System. Our nearest office will send a copy on request.

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TABLE 3
PAPER MACHINES, BY TYPE, NUMBER, AND CAPACITY, BY KIND OF PAPER MADE: 1928 AND 1927

Kind	1928 Fourdrinier Number	1928 Fourdrinier Total capacity per 24 hours (tons, 2,000 lbs.)	1928 Cylinder Number	1928 Cylinder Total capacity per 24 hours (tons, 2,000 lbs.)	1927 Fourdrinier Number	1927 Fourdrinier Total capacity per 24 hours (tons, 2,000 lbs.)	1927 Cylinder Number	1927 Cylinder Total capacity per 24 hours (tons, 2,000 lbs.)
Total	949	21,152	753	20,568	949	20,984	744	19,455
News print	141	6,101	...	.....	156	6,349	...	.....
Book paper	236	5,209	3	21	236	5,249	2	23
Cover paper	7	61	6	26	9	79	2	13
Writing paper	142	2,067	...	.....	153	1,819	1	6
Wrapping paper	206	4,897	67	624	202	5,015	77	956
Boards	19	436	480	16,772	15	363	489	15,480
Tissue paper	101	892	93	459	101	819	98	444
Absorbent paper	38	405	15	19	35	326	7	8
Building paper	4	168	74	2,547	8	358	66	2,508
Other	55	916	15	100	34	607	2	17

TABLE 4
IMPORTS AND EXPORTS OF PAPER AND PAPER BOARDS, BY KIND, QUANTITY, AND VALUE: 1928 AND 1927

	1928 Quantity (tons, 2,000 lbs.)	1928 Value	1927 Quantity (tons, 2,000 lbs.)	1927 Value
Imports				
Paper and paper boards, total	2,212,038	$142,486,864	2,035,706	$135,368,493
Printing:				
Standard news print	2,156,866	139,410,918	1,987,065	131,488,784
Other	3,669	342,991	5,210	512,122
Wrapping:				
Greaseproof and waterproof	631	231,621	811	262,355
Kraft	5,381	460,294	6,099	517,951
Other	8,113	392,349	6,457	336,885
Boards:				
Pulp	27,158	1,185,858	30,064	1,423,111
Other	10,220	462,833	.....	827,285
Exports				
Paper and paper boards, total	137,727	17,876,832	114,690	15,516,409
Standard news print	11,390	866,046	12,329	1,191,033
Book	12,255	1,789,604	8,022	1,370,932
Cover	1,019	340,972	826	283,083
Writing (other than papeteries)	12,917	2,832,934	6,614	1,918,051
Wrapping:				
Greaseproof and waterproof	1,554	489,647	1,307	380,647
Other	18,379	2,586,848	16,156	2,256,059
Boards:				
Box boards	24,335	1,353,561	21,817	1,351,016
Bristols and bristol boards	990	220,966	922	180,136
Other (including straw board)	21,062	2,149,565	19,277	2,072,702
Wall board	[1] 17,213	2,068,788	[1] 12,841	1,506,412
Tissue:				
Tissue and crepe	2,498	1,096,324	2,401	1,091,531
Toilet	3,224	685,478	2,764	668,871
Towels and napkins	1,509	399,910	1,180	331,700
Blotting	1,960	445,510	1,833	411,410
Building and sheathing	7,422	550,679	6,401	502,826

[1] Approximate.

Sheeted Cotton Cellulose In Demand

Sheeted cotton cellulose, the newcomer in the viscose rayon raw materials field, is finding a widening market. Production of sheeted cotton cellulose at the Hopewell, Va., plant of the Hercules Powder Company has shown a large gain since the installation of the modern paper machines there last fall, according to officials of the Virginia Cellulose department of the Hercules Company.

Until quite recently wood pulp has been used almost exclusively as the basic raw material in the manufacture of viscose rayon. The use of cotton pulp in conjunction with wood pulp has been found to give improved characteristics to the rayon yarn, and cotton linters are now furnished in sheets so that they may be used in the same type of equipment as wood pulp. The latter has always been produced in sheet form.

The addition of cotton pulp has been found to increase the strength of rayon yarns, an important factor in the production of low denier and multifilament yarns. A yarn of considerably whiter appearance is also obtained, it is stated by manufacturers. As uniform raw materials are essential to the rayon producer, the new cotton linter pulp is widely adaptable, its production being chemically controlled within narrow limits.

In the manufacture of rayon by the cellulose acetate, cuprammonium, or nitrocellulose processes, purified cotton linters are used in loose form.

Smith Tablet Co. To Move to Huntingdon

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., May 6, 1930.—The president and directors of Western Tablet and Stationery Corporation, of which the Smith Tablet Company is a division, after long and careful consideration, have decided to move this company to Huntingdon, Pa., a manufacturing city about 60 miles west of Harrisburg. This will be done as soon as possible, consistent with fairness to all employees, and the requirements of the business.

The moving of machinery, equipment and materials, will be completed before the end of May. The local plant will then be used as a warehouse for distribution in this territory. Arrangements are being made so that there will be no interruption whatever in service to customers, and the trade will receive notices of this change on May 5th.

For the past few years this company has felt the need of larger quarters and more manufacturing space to take care of increased business. Some relief, but not enough, was obtained in the busy months by hiring outside warehouse space. For a time it appeared that this division might make this development in Holyoke, but the recent purchase by the corporation of J. C. Blair Company in Huntingdon, caused a change of plan. A new building of some 120,000 square feet has just been added to the Blair plant, and part of this has been assigned to The Smith Tablet Company.

The Smith Division is being incorporated under the laws of Pennsylvania, and will continue to operate as a separate and distinct Division of Western Tablet and Stationery Corporation, having quarters in one of the buildings of J. C. Blair Company.

The Smith lines of tablets, books, loose leaf items, etc., will be manufactured and sold just as formerly, but under improved conditions.

It seems quite a coincidence that Blair and Smith, the two oldest tablet concerns in the industry, each being 50 years old, will very soon, as divisions of the same corporation, be operating under the same roof.

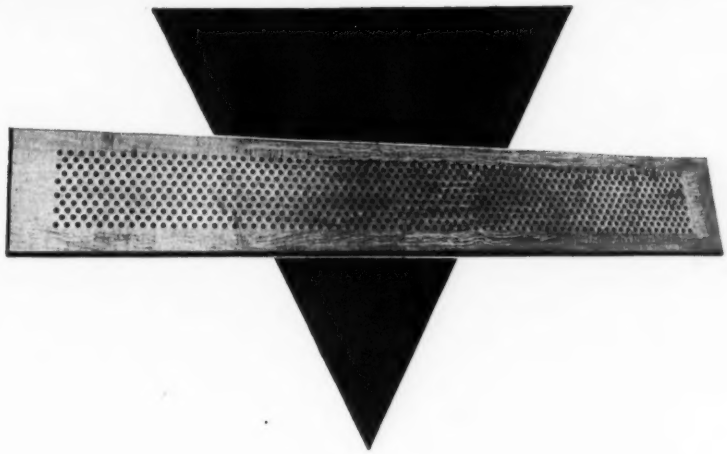
Naturally, the officials of the Smith Tablet Company regret moving from Holyoke, but the new plan promises greater development and improved service to the trade. Every endeavor is going to be made to take care of present employees.

Superintendents to Meet

On Saturday, May 10, the Northwestern division of the Pulp and Paper Superintendents Association are to meet at Wisconsin Rapids, Wis. J. R. Simpson heads the arrangements committee. The superintendents will inspect the mills of the Consolidated Water Power and Paper Company and the Nekoosa-Edwards Paper Company, at Wisconsin Rapids, Biron, Nekoosa and Port Edwards and will hold a luncheon at Hotel Witter. A golf tournament will be staged in the afternoon, followed by a banquet in the evening at Bull's Eye Country Club. C. A. Normington will be toastmaster. George W. Mead, president of the Consolidated company, will be the speaker. A question box will follow on problems of paper manufacture. The women also have been invited to Wisconsin Rapids, and will be entertained by a committee headed by Mrs. Stanton Mead.

Cost and Technical Men to Meet

KALAMAZOO, Mich., May 6, 1930.—Cost accountants and technical experts in the paper industry are in receipt of their first formal invitation to attend the third annual interstate meeting of those organizations, to be held in Kalamazoo. The sessions will be held Friday and Saturday, May 23 and 24 and are sponsored by the Kalamazoo Valley Division of the Cost Association and the Paper Technologists Club of Kalamazoo. E. F. Whittington, of the Sutherland Paper Company, is chairman of the general committee in charge of all convention arrangements and the letters bear his signature. It is further announced that the complete program will be ready for mailing about May 14.



Wood Suction Box Covers

"M & W" Wood Suction Box Covers are drilled from both sides, making perfectly straight and smooth holes, also making the surface on both sides absolutely smooth, which insures the rubber heads making a good, tight joint, also increasing the life of the wire. They are made on a machine especially designed for making Wood Suction Box Covers in the most satisfactory and economical manner. Only highest grade maple is used and absolutely free of knots, etc. When in the market send sizes required or send for dimension cards for ordering.

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The following are trade mark applications pertinent to the paper field pending in the United States Patent Office, which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade Mark Company, 900 F Street, N. W., Washington, D. C., trademark specialists. As an additional service feature to its readers, PAPER TRADE JOURNAL gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering.

SUPERFOLD, with an arrow running through it.—Ser. No. 284,730. Gilman Fanfold Corporation, Ltd., Toronto, Ontario, Canada, and Niagara Fall, New York. For paper forms.

AEROFOAM, and fanciful representation of an airplane.—Ser. No. 293,441. Nekoosa-Edwards Paper Company, Port Edwards, Wis. For kraftpaper.

MAYCREST.—Ser. No. 293,627. The May Department Stores Company, New York City. For correspondence and mailing envelopes, bond paper, writing paper.

ORONO, with an arrow running through it.—Ser. No. 293,745. Orono Pulp and Paper Company, Bangor, Me. For wrapping paper, envelope paper and tissue paper.

CASPAK.—Ser. No. 293,754. Superior Paper Products Company, Carnegie, Pa. For corrugated paper shipping cases.

PROFILM.—Ser. No. 294,009. A. S. Daneman Art Works, Dayton, Ohio. For stencil sheets used in the reproduction of multicolored designs.

AMERICAN THRIFT SAVINGS, THE KEYSTONE OF SUCCESS, SAVE-YURE-CHEX, etc.—Ser. No. 290,111. American Thrift Holding Company, Jacksonville, Fla. For bank pass books, signature cards, deposit checks and drafts.

E. P. C. Ser. No. 292,773. Empire Paper Company, Chicago, Ill. For bond, ledger and writing paper.

UNITED HOME GROCERS. Ser. No. 294,264. A. Kickbusch Grocery Company, Wausau, Wis. For writing paper, wrapping paper and toilet paper.

AM MO PHA. Ser. No. 294,690. Falko W. Schilling, Manchester, N. H. For indexed and information cards for use in a medicament and medical filing-cabinet system.

EATON'S HIGHLAND VELLUM. Ser. No. 294,872. Eaton, Crane & Pike Company, Pittsfield, Mass. For papeteries, correspondence cards, writing tablets, correspondence and mailing envelopes, etc.

APEX, in a triangle. Ser. No. 294,904. American Paper Exports, Inc., New York City. For ledger, bond, bristol, mill-board, blotting, cover, thin typewriter, mimeograph and tissue paper; and papeteries.

PACIFIC. Ser. No. 294,906. American Paper Exports, Inc., New York city. For ledger, bond, millboard, writing, bristol, blotting, printing, cover, mimeograph etc.

PECO. Ser. No. 294,907. American Paper Exports, Inc., New York City. For ledger, bond, millboard, writing, bristol, blotting, cover, mimeograph and tissue paper; correspondence and mailing envelopes, etc.

CLASS DAYS. Ser. No. 295,175. White & Wyckoff Manufacturing Company, Holyoke, Mass. For loose-leaf and ring binders.

CENTRIFINER. Ser. No. 295,291. Bird Machine Company, South Walpole, Mass. For pulp and paper making machinery.

SUTTON. Ser. No. 295,444. Frank Sutton, Pittsburgh, Pa. For lock boxes for valuables.

HIGHMONT KRAFT.—Representation of mountains. Ser. No. 295,502. City Cordage & Paper Corporation, New York City. For wrapping paper.

REPRESENTATION of a three-quarters moon and a star, and the letter H. Ser. No. 295,565. J. P. Heilbronn Company, Manila, P. I., and New York City. For bond and note paper, writing tablets, tissue paper, waxed paper, Manila paper, cardboard, etc.

ENDURA.—Ser. No. 295,716. White & Wyckoff Manufacturing Company, Holyoke, Mass. For loose-leaf and ring binders.

SCHOOL MASTER.—Ser. No. 295,717. White & Wyckoff Manufacturing Company, Holyoke, Mass. For loose-leaf and ring binders.

EAGLE BRASALL.—Representation of an eagle. Ser. No. 295,730. Eagle Pencil Co. New York City. For rubber erasers.

ALAMO.—Ser. No. 295,750. Oregon Pulp and Paper Company, Salem, Ore. For bond paper.

TEXACO.—Ser. No. 295,751. Oregon Pulp and Paper Company, Salem, Ore. For bond paper.

HIDALGO BOND.—Ser. No. 295,857. National Paper and Type Company, Inc., New York City. For bond paper.

ARSWORTH.—Ser. No. 295,792. Frank H. Hoonan, North Bergen, N. J. For printed business blanks, forms, strips and cards particularly adapted for sales records and reports.

HUDSON BAY TISSUE.—Ser. No. 296,037. Walgreen Company, Chicago, Ill. For toilet paper.

PARIAN.—Ser. No. 296,260. The Champion Coated Paper Company, Hamilton, Ohio. For mineral-coated paper for printing.

KRAFTEX.—Ser. No. 296,337. The Gray Envelope Manufacturing Company, Inc., Brooklyn, N. Y. For correspondence and mailing envelopes.

GEMCO.—Ser. No. 296,338. The Gray Envelope Manufacturing Company, Inc., Brooklyn, N. Y. For correspondence and mailing envelopes.

TUFTEX.—Ser. No. 296,340. The Gray Envelope Manufacturing Company, Inc., Brooklyn, N. Y. For correspondence and mailing envelopes.

HERCULITE.—Ser. No. 296,648. International Visible Systems Corporation, Cincinnati, Ohio. For record books and binders.

OPACO.—Ser. No. 296,849. American Paper Exports, Inc., New York City. For ledger, bond, millboard, writing, bristol, blotting, printing, cover, wrapping paper, etc.

MAESTRO ITALIANO.—Ser. No. 296,856. The Central Ohio Paper Company, Columbus, Ohio. For printing and announcement paper.

CINDERELLA.—Ser. No. 296,897. Beach & Arthur, Inc., Indianapolis, Ind. For paper napkins and tablecloths.

News of the Boston Paper Trade

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., May 5, 1930.—Richard F. Piper, of the Baird & Bartlett Company, box board dealers, was married to Miss Dorothy S. Johnson, of Portland, Me., in that city Saturday afternoon. A number from that company attended the ceremony. Mr. and Mrs. Piper will live in Wayland, Mass.

Rutter & McNaught, Inc., announce the addition of a new cover line, Wachusett Cover, which is made in white and thirteen colors in all the standard cover sizes.

N. S. Clark, president of Knight, Allen & Clark, Inc., accompanied by Mrs. Clark and family, enjoyed a fishing trip in Maine last week, trying his luck at various places. He made the trip by motor.

W. L. MacAllister, representing the Waterfalls Paper Mills, Mechanic Falls, Me., was in town last week on his way back to the New York office after a visit at the plant of the company.

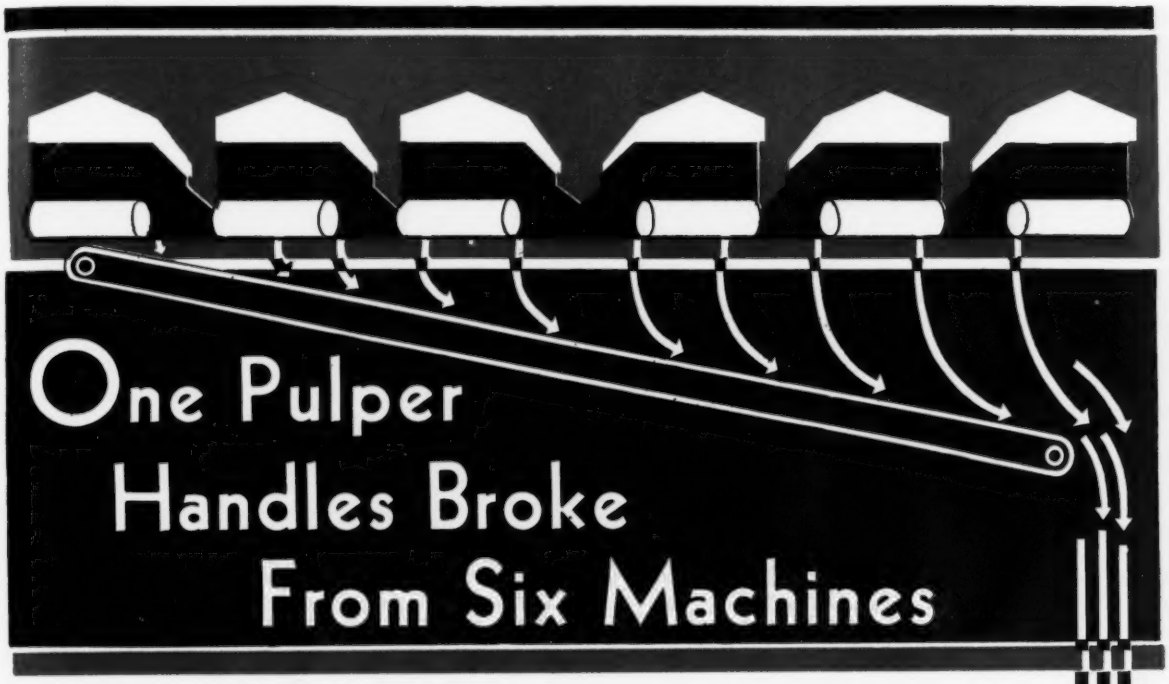
Alford Hicks, of Daniel M. Hicks, Inc., paper stock dealers, of New York City, called on the Boston trade last week.

Connecticut Valley Superintendents Meet

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., May 6, 1930.—The May meeting of the Connecticut Valley Division of the American Pulp and Paper Mill Superintendents Association was held Saturday afternoon and evening at the Hotel Nonotuck. At the afternoon session Matthew V. Horgan of the Wauregan and Beebe & Holbrook Divisions of the American Writing Paper Company presided and the paper on "Rosin Sizing" was read by G. H. Lafontaine of Bennett, Inc., Cambridge, followed by a discussion.

John J. White acted as toastmaster at the banquet that followed but there were no formal addresses. General dancing followed.



One Pulper Handles Broke From Six Machines

In a large western mill a single Noble & Wood Pulper is repulping all the broke from six busy paper machines. The broke is conveyed automatically to the Pulper. There is no manual handling; no trucking; no cluttered aisles.

Another mill feeds telephone directories and bulky books to the Pulper, reconverting them into pulp, without even troubling to open them up or tear them apart. Still others furnish with whole laps and tightly wound roll butts, drawing off well hydrated half-stock that saves time, power and strain at the beaters.

Wherever the Noble & Wood Pulper is in operation mills are saving money by salvaging and converting into useable pulp, materials which are often wasted. The Pulper repulps these materials without further shortening or mutilating the fibers. Operation can be made continuous; clogging is impossible; power consumption is amazingly low. There's a place for at least one Pulper in *your* mill,—let us show you.

The NOBLE & WOOD IMPROVED PULPER

Pulps and Refibers

Broke
Waste
Trimmings
Mixed Paper Stocks
Entire Catalogs, Directories and Magazines
Roll Butts
Entire Laps of Ground Wood or Chemical Pulp

NOBLE & WOOD
MACHINE COMPANY
Hoosick Falls New York

Canadian Hydro-Electric Output Gains

Canadian Hydro-Electric Corporation, Ltd., controlled by International Hydro-Electric System, a division of International Paper and Power Company, produced 199,280,000 kilowatt hours of electric energy in March, a new high record for that month, and 19 per cent over March, 1929. In the first three months of this year the output of the corporation was 575,139,000 kilowatt hours, 16 per cent over the output of the corporation in the first three months of 1929, and practically double its output in the first three months of 1928.

The output of the corporation in the twelve months ended March 31 was 2,176,405,000 kilowatt hours, an increase of 40 per cent over the output of the corporation in the twelve months ended March 31, 1929.

The output of electric energy of all Canadian central station hydro-electric plants other than those owned by Canadian Hydro-Electric Corporation, Ltd., in the first two months of this year—the latest figures available—was 1 per cent over the first two months of 1929, while the output of the present plants of Canadian Hydro-Electric Corporation, Ltd., increased 14 per cent in the same period.

The output of the plants of Gatineau Power Company, a subsidiary of the corporation, was 12 per cent in the first two months of this year over the corresponding period of last year, while the output of all other central station hydro-electric plants in the Province of Quebec increased 2 per cent in the same period.

In the first two months of this year the Grand Falls, hydro-electric plant of the corporation produced 41 per cent of the entire production of electric energy of all central staion hydro-electric plants in the Maritime Provinces.

Chicago Paper Market Improves

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., May 5, 1930.—Business conditions appeared somewhat brighter as the Chicago paper market moved into the month of May, although the specific conditions of each line changed only slightly. News print was more active and might be termed the brightest spot in last week's report. The market is improving, prices remain the same and mills report about 75 per cent capacity. In the fine paper market there is a general feeling that conditions will improve from now on. The market is a bit stronger here and there and orders are piling up, in some instances four weeks ahead. Board is about the same as last week with the demand steady but prices still off.

Book papers are coming up to expectations and tend to show even stronger during the remainder of the month. Prices are firm. Tissues are doing as well as could be expected under present conditions—seasonal and otherwise, according to reports. The wrapping paper market perked up a bit during the week with a fairly heavy retail demand said to have stiffened the prices slightly though they are still far from being ideal. Waste papers, especially, the lower grades, were reported sluggish but are expected to move more readily before the fifteenth of the month. The market in general showed an improvement over the preceding week.

United States Civil Service Examinations

The United States Civil Service Commission announces the following open competitive examinations: Assistant Scientific Aide, $1,620 a year; Junior Scientific Aide, $1,440 a year.

Applications for assistant scientific aide and junior scientific aide must be on file with the Civil Service Commission at Washington, D. C., not later than June 10, 1930.

The examinations are to fill vacancies in the Departmental Service, Washington, D. C., including the Bureau of Standards, and in positions requiring similar qualifications.

The entrance salaries are $1,620 a year for assistant scientific aide, and $1,440 a year for junior scientific aide. Higher-salaried positions are filled through promotion.

Optional subjects for the position of assistant scientific aide are advanced general physics, ceramics, chemical enginering, chemistry, civil and mechanical engineering, electrical engineering, paper technology, physical metallurgy, physics and chemistry, and textile technology. For the position of junior scientific aide lists of eligibles will be established of those qualified in physics, those qualified in chemistry, and those qualified in both physics and chemistry.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the Secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

Dinner Given to Floyd L. Carlisle

OGDENSBURG, N. Y., May 5, 1930.—Many prominent paper mill men attended a banquet this week given by the local Chamber of Commerce at the Ogdensburg-Century Club in tribute to Floyd L. Carlisle, head of the St. Regis Paper Company, who was the guest of honor. Mr. Carlisle's address was a forceful presentation of the power subject and its relation to Northern New York development while he also made a deep impression on the several hundred guests. A reception committee in charge of Frank A. Augsbury, president of the Algonquin Paper Company, met Mr. Carlisle on his arrival and accompanied him on a tour of the city.

In the course of his address he gave a brief review of efforts to develop the power in this section beginning in 1900. The St. Lawrence, he said, has the greatest drainage area of any river in the world in proximity to a market for power but since 1908 no progress has been made towards utilizing it. The development of the St. Lawrence power is purely a business proposition, according to Mr. Carlisle, who said that if it was harnessed only about fifteen per cent would be required for lighting purposes while the remainder could be utilized by industries. "The kind of industry that can use this power is the one that will move where the power is cheapest and if the development was carried out on a business basis the benefits to this section would be of great magnitude," he said. Mr. Carlisle in concluding his address called attention to Frank A. Augsbury, of the Algonquin Paper Company, who, he claims, has accomplished great things in the past few years in bringing the city into the limelight from an industrial standpoint.

Dr. Zon Addresses Foresters

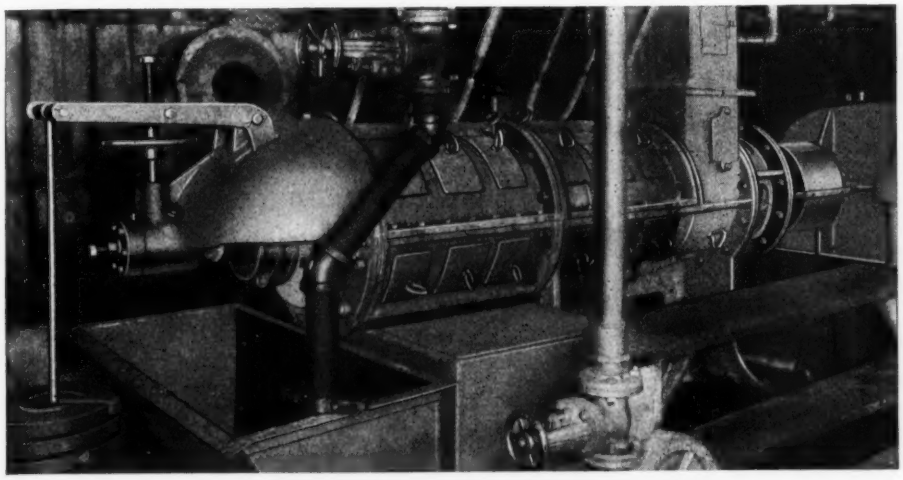
Cultivation of Jack pine and popple for the paper industry is a growing tendency and is helping to solve the economic rehabilitation of miles of acres of cut-over and burned over land in Wisconsin, Minnesota and Michigan, Dr. Raphael Zon declared in an address last week before the American Forestry Association at its meeting in Minneapolis, Minn. Dr. Zon is director of the Lakes States Forest Experimental station. He said these states possess 20,000,000 acres of this character. In 85 years the lumber industry swept away 85,000,000 acres of virgin forest and left a serious problem of tax delinquency. Forestry and recreation will help to solve the situation, he said, since agriculture cannot absorb but a small part of these lands. An address given by William Mauthe, chairman of the Wisconsin Conservation Commission, urged federal and state aid for reforestation on a large scale.

Kalamazoo Paper Co. To Expand

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., May 6, 1930.—The Kalamazoo Paper Company has awarded a contract to the O. F. Miller Company for erection of an addition to the finish room of mill No. 1. The new structure will be 36 by 60 feet in dimensions. In connection with this expansion, the concern will, according to F. M. Hodge, president, install a new trimmer. President Hodge reports the plant is running steadily and about at normal capacity.

TIMES CHANGE | METHODS CHANGE



OTHER VALLEY EQUIPMENT

- Jordan Engines
- Beaters, Breakers, Bleachers & Washers
- Flat and Rotary Screens
- Screw Presses
- Voith High Pressure Stock Inlets
- Centrifugal and Stuff Pumps
- Laboratory Equipment
- Stock Valves—Gate and Plug
- Stock Consistency Regulator
- Special Machinery

Dr. Julius Klein, Assistant Secretary of Commerce, recently made the significant statement "that the piles of discarded machinery you see from train windows when whirling through factory districts are not signs of profligate waste, but ***impressive monuments to American progress.***"

Good management nowadays recognizes the wisdom of replacing machinery as soon as it is definitely superseded by more improved, more profitable equipment. For example, an improvement like the Valley-Voith Screw Press which has already—in 23 installations—demonstrated that it is by far the ***cheapest*** and ***quickest*** method for dewatering pulp.

Low initial cost . . . . low upkeep (elimination of wires, felts and auxiliary equipment) . . . . small amount of power . . . . low labor cost . . . . greater capacity . . . . and reduced floor space . . . . are some of its main, money-saving features.

Further interesting facts pertaining to what this machine has done, is doing, and what it can do for you will be mailed upon request. Address the Valley Iron Works Co., Appleton, Wis.

VALLEY

Equipment for Paper and Pulp Mills

New York Office: 350 Madison Ave.
Western Mfg. & Sales Div.: Smith & Valley Iron Works, Portland, Ore.
Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, Canada

New York Trade Jottings

The Lay Paper Company, Inc., exporters of paper and paper products, has removed from 29 Broadway to 11 Broadway, New York. Telephone Digby 7627.

* * *

An investigation of the waste paper situation is being conducted by the New York Employing Printers Association, with headquarters in the Printing Crafts Building, New York.

* * *

Jesse H. Neal, general manager of the American Paper and Pulp Association, attended the Eighteenth Annual Meeting of the Chamber of Commerce of the United States at Washington, D. C., last week.

* * *

General business conditions were freely discussed at the regular weekly luncheon and meeting of the New York Division of the Salesmen's Association of the Paper Industry, held at the Fraternities Club last Monday.

* * *

George R. Cooney, formerly representing the Mills Machine Company, of Lawrence, Mass., has joined the forces of the Consolidated Products Company, of 15 Park Row, New York, and will represent Consolidated Products in the fields he has previously covered.

* * *

Hooker Electrochemical Company announces the removal of its executive and sales offices from 25 Pine street to the Lincoln Building, 60 East 42nd street, New York. Telephone Murray Hill 2500. The company occupies the entire 52nd floor of the new building.

* * *

The Belmont Hotel, directly opposite the entrance to the New York Central Railroad Station, where many prominent members of the paper industry made their headquarters, closed its doors last Saturday. It is understood that a large office building is to be erected on the site.

* * *

The Turbo-Mixer Corporation, New York, manufacturers of agitating and allied equipment, announces the appointment of J. E. Moul as general manager. Mr. Moul's previous connection was that of president and general manager of the Gifford-Wood Construction Company, New York.

* * *

D. W. Klug, manager of the Match Book and Paper Concern, Fucuman, Argentina, is at present in New York studying the pulp situation. Mr. Klug is interested in a new method of manufacturing pulp from sugar cane waste for which a plane is being constructed in Argentina, and machinery being ordered.

* * *

The Minden Press, Inc., producers of fine printing, of 122 West 40th street, New York, have formed a new organization known as the Lea Gauge Company, with offices at 1440 Broadway, New York. Telephone Pennsylvania 3232. The new company will also act as the exclusive Metropolitan District distributors of the Ashcroft Thickness Gauge and Ashcroft Paper Tester.

* * *

Members of the paper industry will be interested to learn that the Canadian Club, which had made its home in the Belmont Hotel for many years, is now installed in the Biltmore Hotel and will remain there until quarters in the new Waldorf-Astoria are available. The Canadian Club is now occupying the second floor of the Biltmore, known as the Spanish Gardens, with dining facilities in the main dining room. On or about July 1 the space formerly occupied by the Old Colony Club will be redecorated and occupied by the Canadian Club as headquarters for the remainder of its stay at the Biltmore.

The Philadelphia Convention

The eleventh annual convention of the American Pulp and Paper Mill Superintendents Association to be held at the Hotel Benjamin Franklin, Philadelphia, Pa., starting Thursday, May 29, promises to be the most largely attended convention of any yet held by the association. From reports received from J. Bertwell White, general chairman of the convention, it is evident that many interesting papers treating with the modern trends in pulp and paper manufacture, will be read and discussed during the convention. Various concerns located within close radius of Philadelphia, have extended the courtesy of visits to their mills and an opportunity will also be afforded to visit the large experimental laboratory of the E. I. DuPont DeNemours Corporation, located at Carney's Point, N. J.

Ample provision has been made for visiting historical points of interest, in and near Philadelphia at the close of each day's business sessions.

Those who anticipate attending the convention should arrange their hotel accommodations through J. Bertwell White, Marshall Heights, Yorklyn, Del., in order to make certain that they are properly provided for.

The superintendents' meetings have grown in interest with each succeeding year and the spirit of co-operation now existing, the interchange of ideas, the friendly discussions, all have proved of inestimable value.

Frank W. Warren Sails for France

BROWNVILLE, N. Y., May 5, 1930.—Frank W. Warren, technical expert on the manufacture of pulp and paper and Paris representative of the International Paper Company of Canada, sailed this week for France after having been the guest of relatives here for some time. For the past few years he has been a consulting expert and in that capacity his services have been in constant demand in virtually every paper producing country of importance in Europe. While business conditions are good and business steadily improving in France the pre-war normal stage has not yet been reached, according to Mr. Warren.

Previous to going to that country he was employed in a similar capacity in this section where he is well known. He was born in Jefferson County and received his training in the paper mills here. During his visit here he renewed old acquaintances in visits to a number of the important paper plants and allied industries.

Seth Bush Goes With Moore & White

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., May 6, 1930.—Announcement was made today of the resignation of Seth Bush for the past 16 years affiliated with the Crocker-McElwain Paper Company and Chemical Paper Manufacturing Paper Company to become affiliated with the Moore & White Company of Philadelphia makers of paper mill machinery. He will take up his new duties in June.

Previous to his association with the local paper companies he was with a coal company, and later with the Textile Manufacturing Company of Westfield and Tilton Manufacturing Company of Tilton, N. Y., and Pope Manufacturing Company of Westfield. He then was employed by the Scovell-Wellington Company as an accountant.

Paper Men at U. S. Chamber of Commerce Meeting

WASHINGTON, D. C., May 7, 1930.—Among the representatives of the paper industry attending the eighteenth annual convention of the Chamber of Commerce of the United States here last week were included; Jesse H. Neal, manager of the American Paper and Pulp Association; G. Collins, of the Dill and Collins, Philadelphia, Pa.; L. M. Alexander, of the Neekoosa-Edwards Paper Company, Port Edward, Wis.; George W. Sisson, Jr., of the Racquette River Paper Company, Pottsdam, N. Y.; and Robert Fay of the American Writing Paper Company.

PROOF OF SATISFACTION . . . .

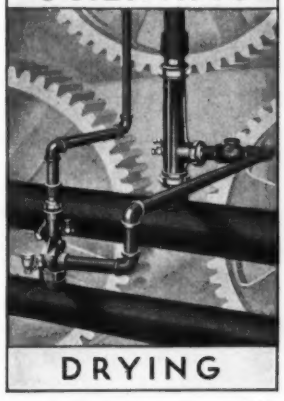
74% OF THE PENBERTHY PAPER DRIER EQUIPMENT

SOLD IN 1928-9 WAS REPEAT BUSINESS

A TRIAL installation of paper making equipment can frequently be sold on the strength of claimed improvements and economies—but if these claims do not materialize the "repeat orders" are not forthcoming.

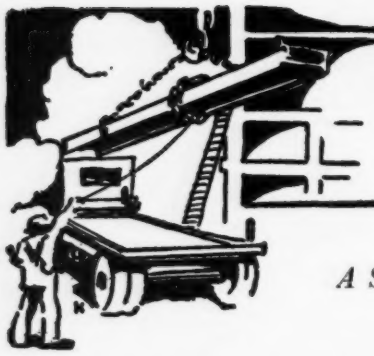
The fact that "repeat orders" constituted 74% of the Penberthy Equipment sold in 1928-29 certainly is conclusive evidence of scientific drying with the resulting improved quality of the sheet—less steam per pound of paper—increased production—cockles and felt marks eliminated—snap-offs minimized—

But it is no longer necessary to depend upon claims even when making a first installation. Penberthy Drier Equipment may now be purchased on a guaranteed savings basis and without capital investment. There are three purchase plans. Ask for complete information.



PENBERTHY PRODUCTS

PENBERTHY INJECTOR COMPANY
Established in 1886 DETROIT Canadian Plant Windsor, Ont.



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Fitchburg, Mass.—Crocker, Burbank & Co., Inc. Westminster street, manufacturer of bristol board and other paper products, has asked bids on general contract for a new addition to plant, to be known as unit No. 8, reported to cost upward of $80,000, with equipment. New structure will be used for increased capacity. George F. Hardy, 309 Broadway, New York, is engineer.

Hamilton, Ohio—The Champion Coated Paper Company, Hamilton, has approved plans and will proceed with structure of a new addition to its mill on North B street, consisting of one-story unit, reported to cost close to $80,000 with equipment. Increased capacity will be developed. General contract for unit has been awarded to the F. K. Vaughn Building Company, Hamilton.

Manitowoc, Wis.—Schnorr Brothers, South Tenth street, manufacturer of paper boxes and containers, are said to have decided to defer rebuilding of portion of plant, recently destroyed by fire, and project will be held in abeyance. The fire loss, occuring on February 14, approximated $50,000, with equipment.

Fort Wayne, Ind.—The Fisher Brothers Paper Company, 118-20 West Columbia street, has plans maturing for a new three-story building at Clinton and Columbus streets, reported to cost about $50,000, to be used primarily for paper storage and distributing service. It is understood that bids on general contract will be asked in the near future. A. M. Strauss, Cal-Wayne Building, is architect. M. B. Fisher is one of the heads of the company.

Manchester, Conn.—The Rogers Paper Manufacturing Company, Manchester, has taken out a permit for a new addition to mill at 216 Hartford road, designed for storage and distributing service. It will be one-story, reported to cost close to $20,000.

Panama City, Fla.—Proceeding with its project for a new mill at this place, referred to in these columns, the Southern Kraft Corporation, 466 Michigan avenue, Mobile, Ala., has awarded a contract to H. W. Johnson and J. W. Savell, Panama City, for clearing the 60-acre tract of land to be occupied by the new plant, and work will be placed in progress immediately. It is understood that mill units will be erected on a day labor basis by company construction forces. J. T. Friend is vice-president.

Manistique, Mich.—The Manistique Pulp and Paper Company, Manistique, and the Escanaba Pulp & Paper Company, the latter with mill at Groos, near Escanaba, Mich., are said to be discussing the advisability of the construction of a new sulphite pulp mill as a joint project, output to be utilized by both companies under an agreement. No definite action has been taken, and project is understood to be in a preliminary stage.

Swarthmore, Pa.—Fire, recently damaged a portion of the local mill of the Swarthmore Paper Company. An official estimate of loss has not been made. The damage will be replaced.

Oshkosh, Wis.—The Oshkosh Corrugated Box Company, Harrison street, is said to be completing plans for a new two-story plant unit, reinforced-concrete type, to cost more than $175,000. Time of beginning work on unit has not been announced. E. A. Juul, Security Bank Building, Sheboygan, Wis., is architect and engineer.

Fitchburg, Mass.—The Dejonge Paper Company, Fitchburg, has denied a report, recently circulated in trade circles, that its local mills would be closed and the plant removed to a new site, probably in New Jersey. The plant will be continued at Fitchburg, without change. The mill is given over primarily to the production of coated paper stocks and is operating on normal schedule with a working force of approximately 300 persons. Louis Dejonge is head.

Milwaukee, Wis.—The A. George Schulz Company, 417 Clybourn street, manufacturer of paper boxes and containers, has taken bids on general contract for a new addition to plant, to be one-story, 75x100 feet, reported to cost more than $35,000, with equipment. It is proposed to award contract at an early date. F. F. Drolshagen, 477 Virginia street, is architect.

Lewiston, Me.—A project for the establishment of a rayon mill at Lewiston, by the Delaware Rayon Company, New Castle, Del., will be held in abeyance for some time to come. The mill unit was estimated to involve an expenditure of more than $2,000,000, and it has been currently reported that the Central Maine Power Company, Augusta, would be interested in the development. Walter S. Wyman of the last noted organization, is president of the recently organized Maine Seaboard Paper Company, which is proceeding with the construction of a new mill at Bucksport, Me., to be used for the porduction of news print with estimated cost placed at close to $5,000,000.

Plainwell, Mich.—The Michigan Paper Company, Plainwell, has plans maturing for a proposed expansion and improvement program at its mill, and it is understood that work will be placed in progress at early date, reported to cost in excess of $250,000, including equipment. C. F. Hirschfield, 2,000 Second avenue, Detroit, Mich., is consulting engineer.

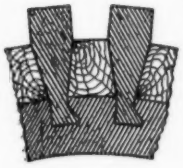
Baltimore, Md.—The Hinde & Drauch Paper Company, Sandusky, Ohio, manufacturer of corrugated paper board products, containers, etc., has plans maturing for proposed new branch mill on five-acre tract of land at Baltimore, recently acquired, and it is understood that actual work on project will be placed in progress at an early date. The plant is reported to cost over $80,000, with equipment, and will be used for trade along the Atlantic seaboard.

Philadelphia, Pa.—The Hooper Paper and Twine Company, 270 South American street, has leased the entire building at 105 Church street, totaling about 10,000 square feet of floor space and will occupy for company operations in the future, including paper storage and distributing service and headquarters.

Chester, Pa.—The Scott Paper Company, Chester, manu-

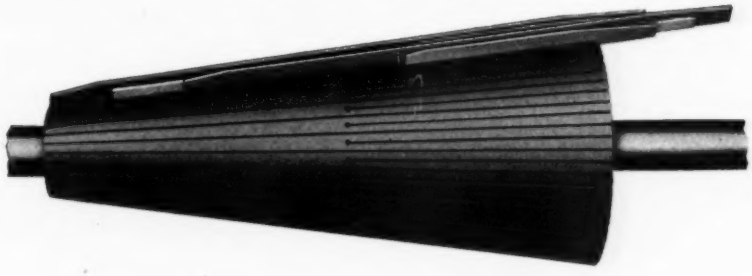
Compare the Bolton Inverted Wedge Plug with the ordinary Jordan plug

. . . then decide which you'll buy next



The New

Wedge woods larger at bottom than at top. Woods or knives cannot come out. Chipping does not weaken support of knives. Inverted wedge woods are the base of service received. Solid wood, no notches, bigger at bottom than at top. Chip as much clearance as wanted, as many times as you wish—woods cannot be weakened.



Bolton Inverted Wedge Plug

Inverted wedge woods positively cannot come out.

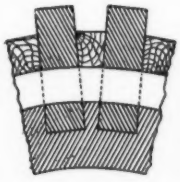
Knives lock slotted entire length of plug, can never work loose.

No bands to stretch and break.

Strain on knives and plug body equally distributed over every square inch of surface. No strain on wedge woods.

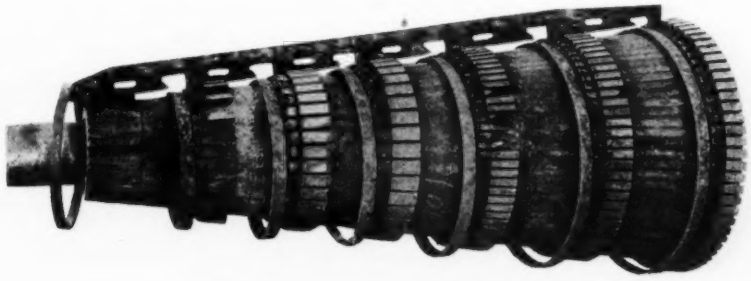
Interchangeability—one plug takes any size knife—you never have to buy another plug.

Reduces maintenance and renewals 30 to 50%, increases production.



The Old

Wood wedges larger at top than at bottom, nothing to prevent working loose. Knives supported at only a few points, chipping seriously reduces and weakens support.



Ordinary Plug

Wedges work loose, wash out. Knives up on stilts improperly supported.
Bands stretch and break.
Supporting lugs crack and break off, causing knives and woods to twist and break out.
Plug takes only one size of knife, change in knife sizes requires change of plugs.

Made to fit every style and size of Jordan, Bolton Inverted Wedge Plugs quickly pay for themselves out of the savings they make. You cannot afford to overlook the advantages they offer. Write today for full information and prices.

John W. Bolton and Sons, Inc.

LAWRENCE : : : MASSACHUSETTS

3868

facturer of tissue paper, etc., is running on a capacity production schedule at all five mills of the company, and will continue on this basis for an indefinite period. Employment is being given to a maximum working force. But little of current output is diverted to storage at the present time, and stocks on hand are moderate.

Winona, Minn.—The former plant of the old Winona Paper & Pulp Company, Winona, was partially destroyed by fire recently with loss approximating about $25,000.

Canton, Ohio—The Cleveland Corrugated Box Company, 5305 Sweeney avenue, Cleveland, has taken over the mill of the Canton Fibre Box Company, recently acquired, as previously reported in these columns, and will operate as a branch plant under the name of the Canton Corrugated Box Company. Maximum production will be developed. A. R. Havighurst is president.

Montreal, Que.—The Perkins Tissue Mills, Ltd., Montreal, affiliated with the American Tissue Mills, Inc., Holyoke, Mass., has begun operations in its recently acquired plant in the Montreal East district. The new owner will develop the mill for the production of tissue and crepe papers, as well as waxed and other processed paper goods, and will give employment to a full working quota until further notice.

New Companies, Etc.

New York, N. Y.—The Graphic Paper Corporation has been incorporated with a capital of $10,000, to manufacture and deal in paper goods. The company will be represented by Max Jelline, 1440 Broadway, New York, attorney.

Decatur, Ill.—The Century Wall Paper Mills, Inc., a Delaware incorporation, has arranged for an increase in capital from 3,000 to 30,000 shares of stock, no par value, for general expansion.

Brooklyn, N. Y.—The New York Corrugated Case Company, Brooklyn, manufacturer of corrugated paper board, boxes and containers, has filed notice of a reduction in capitalization from $100,000 to $5,000.

Providence, R. I.—The Biltmore Bag Company, Providence, has been incorporated with a capital of 96 shares of stock, no par value, to manufacture and deal in paper bags, etc. Incorporators are Arthur J. Levy, Woodbine street, Providence, and Frank F. Pinkos, Providence.

Competition Keen in Indianapolis

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., May 5, 1930.—In addition to wondering where all the business has gone, the local jobbers are faced with the problem of price cutting. Competition perhaps is keener now than it has been in years and the paper men are face to face with a price slashing program that promises to eliminate all profits entirely unless they stop the practice. This does not mean that all are making a habit of this vice, but a sufficient number are as to cause a lot of worry to those who really desire some profits.

Confusion is paramount in krafts. Here some jobbers are wanting to reduce their stocks and are selling out at lower prices than they paid some time ago for the same stocks. Not only that, but sales are not plentiful and this only seems to urge further price cutting in an effort to stimulate a situation that is difficult to stimulate, and certainly can not be stimulated at the sacrifice of all business methods.

Low priced writing papers also are coming in for their share at the bargain counter. There seem to be plentiful stocks on hand and the tendency is to reduce stocks regardless of price. Much the same is true, though not to the same extent, in book and high grade writing papers. Here, though, there seems to be a little demand and this doubtless has kept these grades from sinking to the same level as others.

Building papers are in some demand, though the volume of business is not large as compared even with last year. Dealers generally have short stocks and are in the market frequently if not for large orders.

Box Board Production for March

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 5, 1930.—March production of box board, based on reports to the Department of Commerce by 93 firms operating 120 plants was 74.6 per cent of capacity, as compared with 81.2 per cent in February and 83.4 per cent in March, 1929. In the following table the capacity data vary according to the normal number of working days in each month:

Year and Month	Operation			Production			New Orders	Unfilled Orders (end of month)
	Inch hours		Per cent of Capacity	Short Tons		Per cent of Capacity	Short Tons	
	Capacity	Operated		Capacity	Output			
1929								
Jan.	11,417,328	9,297,029	81.4	307,268	248,290	80.8	241,086	87,974
Feb.	10,539,072	8,435,967	80.0	283,632	228,034	80.4	227,595	87,726
March	11,417,328	9,416,990	82.5	307,268	256,118	83.4	266,895	96,209
Total (3 mos.)	33,373,728	27,149,986	81.4	898,168	732,442	81.5	735,576	.....
April	11,417,328	9,278,701	81.3	307,268	251,147	81.7	250,366	98,162
May	11,417,328	9,526,063	83.4	307,268	264,830	86.2	240,395	89,485
June	10,978,200	9,170,955	83.5	295,450	241,028	81.6	231,230	81,880
July	11,417,328	9,045,362	79.2	307,268	236,377	76.9	240,617	88,275
Aug.	11,856,456	9,601,037	81.0	319,086	262,307	82.2	257,318	82,969
Sept.	10,539,072	8,553,104	81.2	283,632	235,962	83.2	247,329	87,304
Oct.	11,856,456	9,495,747	80.1	319,086	264,631	82.9	264,338	85,600
Nov.	10,978,200	8,515,436	77.5	295,450	238,658	80.8	213,263	66,969
Dec.	10,978,200	7,668,775	69.9	295,450	186,596	63.2	174,570	59,334
Total (year)	134,812,296	108,005,166	80.1	3,628,126	2,913,978	80.3	2,855,002	.....
1930								
Jan.	11,417,328	8,622,511	75.5	307,268	*228,314	*74.3	*245,390	76,975
Feb.	10,539,072	*7,774,480	73.8	283,632	*230,287	*81.2	*217,291	*71,741
March	11,417,328	8,144,229	71.3	307,268	229,253	74.6	220,543	66,870
Total (3 mos.)	33,373,728	24,541,220	73.5	898,168	687,854	76.6	683,224	.....

Year and Month	Shipments of boxboard	Stocks of boxboard, end of month	Consumption of waste paper		Per cent of Capacity	Stocks of waste paper end of month	
			Capacity	Consumed		At plants	In transit and unshipped purchases
	Short Tons		Short Tons			Short Tons	
1929							
January	247,498	56,804	297,440	238,652	80.2	137,251	49,104
February	227,206	57,398	274,560	217,442	79.2	126,212	54,121
March	258,604	54,982	297,440	242,073	81.4	137,008	51,520
Total (3 mos.)	733,308	.....	869,440	698,167	80.3	.....	.....
April	247,773	57,881	297,440	231,089	77.7	142,666	68,005
May	260,283	62,311	297,440	248,813	83.7	150,048	54,433
June	235,865	62,384	286,000	234,119	81.9	159,005	56,904
July	235,863	63,333	297,440	215,537	72.4	175,306	64,359
August	263,140	61,853	309,231	256,815	83.0	171,360	61,571
September	240,349	58,709	274,560	230,636	87.5	174,884	89,510
October	268,494	59,244	309,231	254,166	82.2	185,169	73,135
November	237,696	62,065	286,000	230,498	80.6	193,511	52,862
December	180,194	64,197	286,000	175,957	61.5	198,099	50,380
Total (year)	2,902,965	.....	3,512,782	2,775,797	79.0	.....	.....
1930							
January	*227,854	*64,242	297,440	224,197	75.4	190,879	59,742
February	*224,179	*69,880	274,560	*215,757	78.6	*190,687	*59,384
March	225,839	68,333	297,440	218,340	73.4	171,361	54,029
Total (3 mos.)	677,872	.....	869,440	658,294	75.7	.....	.....

* Revised.

Paper Demand Fairly Brisk in Boston

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., May 5, 1930.—The paper market here is apparently in at least a fair condition and whatever improvement has developed within the last few weeks is well sustained. The outlook seems favorable. A number of fine paper houses have had a satisfactory business during the week under review, all grades moving well. Book paper is in particularly good demand. Conditions in kraft are practically the same and could be a whole lot worse. The demand for specialties is in about the same volume.

The box board market is very firm and it is not expected that prices will be any lower. There are many inquiries, a few of which are materializing into orders. Dealers say there is an improvement in the demand, but in some quarters business is reported as dull.

Waste paper and rags remain quiet and a country-wide dullness is reported in these commodities. Prices are unquotably changed, except that No. 1 mixed paper has been tending lower. The consensus of opinion is that quotations will not be lower than they are now.

1930 EDITION ~ PRICE $7.50

LOCKWOOD'S DIRECTORY

of the

PAPER & ALLIED TRADES

CORRECTED UP-TO-DATE

The 55th Consecutive Annual Edition

THE OLDEST INDUSTRIAL DIRECTORY IN THE UNITED STATES

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Classified List of Pulp Mill Products

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Glazed and Coated Paper Manufacturers

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Paper Box Manufacturers

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Watermarks and Brands, etc., etc.

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Editor Cost Section

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TRAINING FOR THE PAPER INDUSTRY

Acquired knowledge is one of the basic factors in the successful conduct of modern manufacturing. Management, production, technical control, maintenance, sales today depend upon a well-trained and properly informed personnel. New men are continually being inducted into the various departments of the pulp and paper industry. Men of years of experience and training are meeting constantly new conditions which arise in modern manufacture. The Technical Association of the Pulp and Paper Industry has been and is cognizant of the fact that a program of training and education is essential for its future progress.

Capable young men who are now in the schools and colleges of this country and who can render valuable service to the pulp and paper industry must be brought in contact with the various materials, processes and operations during their undergraduate days if they are to function more effectively after their entrance as workers in various technical and engineering jobs.

The Education Committee of TAPPI is attempting to place these young men in the pulp, paper and converting plants of the country during the summer months as well as in the plants of machine builders, etc. This project should result in contacts valuable both to employer and to the student. Employers will have an opportunity to select from these young men future employees who can effectively assist in solving problems which confront every branch of the industry. The students will be able to know about the opportunities existing in the field of pulp and paper and make a more intelligent decision regarding permanent entrance upon graduation.

To do this job efficiently the committee needs the support of every agency concerned. Management, superintendents, operatives, technical men and college and university authorities can co-operate in making the plan successful.

The Education Committee of TAPPI is soliciting the aid of the American Paper and Pulp Association, the Superintendent's Association and the active co-operation of every TAPPI member in carrying out its work.

During the month of May every firm will be asked by the committee members to participate actively in the program. A response on the part of everyone will contribute in a large measure to its success. After the student arrives on the job he will need guidance, supervision and in many cases assistance.

The committee is counting on the support of the entire industry in developing, fostering and consummating this project. The chairman of the committee is H. G. Noyes of the Appleton Vocational School of Appleton, Wis.

WORLD'S PAPER PRODUCTION

A compilation of official reports and of estimates indicates that the world production of paper in 1927 was approximately 20,946,972 short tons, according to the *Weekly Business Review* of the American Paper and Pulp Association. The consumption of paper, disregarding stocks on hand which cannot be estimated, is obviously the same figure.

In the subjoined table the production, imports and exports, and apparent consumption of paper in the leading countries of the world, are shown. It is impossible to show all figures for the same year because of differences in periods which the available figures cover.

It is interesting to note that in 1927 American production was approximately 50 per cent of the total for the world. The large American imports of paper which greatly overbalance the exports, swell the consumption to an even greater percentage, approximately 57 per cent of the world production.

The United Kingdom stands next to the United States in consumption of paper but there is a tremendous gap between the two figures. Germany ranks third in the list and France falls in fourth position with approximately three-quarters of a million tons. It is interesting to note that these four countries consumed 78 per cent of the paper used in the world in 1927.

In production the United States, by far the leading country, is followed by Canada with two and a half million tons, Germany with 2,190,000 tons and the United Kingdom with 1,650,000 tons. France is in fifth place in production with 628,000 tons. These five countries produce over 80 per cent of the world's paper.

France, Italy, Japan, Poland, Russia, the United States and the United Kingdom import more paper than they export. The United States is by far the heaviest importer; in 1927 the imports were seventeen times the exports. No other country has such a wide spread between the imports and the exports. The United Kingdom imports approximately three times as much as it exports. In France the relationship is about the same. Italy's imports are not quite twice her exports. Russia is an exception for no paper is exported.

PRODUCTION AND CONSUMPTION OF PAPER

By Countries in 1927
(Tons of 2,000 lbs.)

Country		Production	Imports	Exports	Consumption
Czechoslovakia	1927	242,506	7,175	169,131	80,550
Finland	1927	310,399	1,556	245,813	66,142
France	1926	*628,311	217,975	72,628	773,658
Germany	1927	2,190,300	246,415	808,794	1,627,921
Italy	1927	400,962	*38,157	*16,064	*423,055
Japan	1927	575,758	69,146	46,039	598,865
Norway	1927	*390,000	.....	345,546	44,454
Poland	1927	130,777	32,253	5,072	157,958
Russia	1927-28	305,337	96,561	.....	401,898
Sweden	1927	584,249	9,165	422,731	170,638
United States	1927	10,002,070	2,068,973	127,869	11,943,174
United Kingdom	1927	1,649,760	617,362	241,755	2,025,367
Canada	1927	2,468,691	50,000	1,948,538	570,153
Newfoundland	1927	202,852	*1,000	188,453	15,399
All Others	1927	*865,000	*1,182,695	.....	*2,047,695
Total—as of 1927	.....	20,946,972			20,946,972

*Estimated.

The chief supplying countries of the world, those whose exports greatly exceed their imports, are Czechoslovakia, Finland, Germany, Norway, Sweden and Canada. With the exception of Germany the imports in these countries are practically insignificant. The exports, however, form a large part of the international trade in paper.

The world production of paper has reached its present total of approximately 21,000,000 tons from a production of about 5,000,000 tons in 1900. In a period of 27 years output has quadrupled. The most rapid period of increase has been since the World War. In 1920 production amounted to about 14,000,000 tons. In the succeeding 7 years it increased at the rate of a million tons a year. Half of this increase has occurred in the United States. The best figures available indicate that between 1900 and 1905 world production increased from five million to eight million tons. In 1908 it amounted to slightly more than nine million tons and in 1913 it approached 13,000,000 tons. In the succeeding 7 years, the World War period, it increased but slightly more than a million and a half tons.

The largest increases in paper production in the past decade have occurred in the United States, Canada, the United Kingdom and Germany. It is interesting to note that in only one of these countries, Canada, has the increased production depended wholly upon increased use of domestic materials. In Germany and the United Kingdom, the greater production has required greater importation of pulpwood and wood pulp. In the United States, importations of these products have also increased. At the same time, however, there has been a marked increase in the use of domestic wood for paper manufacture and it is probable that the turning point in dependence upon imported matserials was reached in 1927.

No one can say that the world's need for paper is approaching a saturation point. The sharply uprising trend of the past 7 years surely does not indicate the approach to a peak. It is reasonable, however, to expect that the further increased use of paper in the United States, the per capita consumption of which is three times that of any other country, should be slower than in other countries. Although the United States will undoubtedly continue to use half the world's paper for some time in the future, the rising tide of business activity and cultural development throughout the world indicates that its position may be threatened.

With unexcelled possibilities for growing pulpwood, with its mass production systems and its growing interest in foreign trade, the United States has an opportunity to share in the rapidly growing trade of the world. The opportunity, however, is one that must be sought through carefully planned foreign trade extension.

A. P. W. Paper Co. Gets Third Cargo of Pulp

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., May 5, 1930.—Another cargo of pulp from Sheet Harbor was received this week at the barge canal terminal by the A. P. W. Paper Company and it marked the entrance of the third vessel to this port during the season. The Daga carried 1,900 tons of pulp and a large force of stevedores were on hand to assist as soon as the ship arrived. The shipping schedule of the paper company this year calls for the landing here this year of twenty-one ocean liners carrying similar cargoes and it is expected that the deeper channel in the Hudson will allow the ships to bring full loads here. In the past the ships have been partly unloaded in New York pending completion of the widening of the channel.

"Age Versus Youth"

Oakmont, Allegheny Co., Pa., May 5, 1930.

Editor, PAPER TRADE JOURNAL:

I was much interested in reading the letter of W. F. Strang, in the April 10 issue of the PAPER TRADE JOURNAL on "Age versus Youth." Mr. Strang has brought up a question that should interest mill owners.

I do not know, but, that mill owners, who are looking for a superintendent or manager for their mills, sometimes make a mistake, in not looking into the qualifications of a man with the years of varied practical experience of Mr. Strang, even if he is 58 years of age, for providing such a man is physically fit, he should have several years of good service in his system yet, and I cannot figure how a young man would be able to meet all of the many troubles that continually occur in a pulp or paper mill, quite as well as the man who has had the experience in working out of these troubles.

Any one who has worked in different paper or pulp mills is well aware of the different conditions that exist in different mills, in different localities, particularly as regards the raw materials used, water, labor, and the mechanical equipment, so that it does require years of experience to be able to meet these conditions, and the man with the most years work in this line should be the most valuable man for the organization.

I have had the same experience as Mr. Strang, in both pulp and paper mills, except a couple of years more, and this has brought me into contact with younger men, and men who had a technical education, and am acquainted with some of the weakness of these younger men, due to their lack of the practical knowledge in the operating end of the mill, and I have also had the experience of following such men in the management of mills, and my practical knowledge of all departments of the mill has helped me to make a success where the other man failed.

Please do not misunderstand me, for I think that the young technical man is a very valuable person in any mill organization, particularly a chemist, but I believe that the older man with his years of practical knowledge, should be the safety valve as it were, and if the two work together, you get a good combination and the younger man being an understudy for the experienced man will, with his technical knowledge, coupled with the practical work that he gets, make an ideal manager, if it is in him at all.

Mr. Strangs question as to "why manufacturers will not employ the older men with experience, who are capable of meeting a crisis when it occurs, etc., etc.," is one to cause mill owners some thought, for the only answers to this question that I have had, is that they must have technically educated men.

What about a man who although not a graduate of some institute of learning, but who is technically trained and who has acquired considerable technical knowledge, while at the same time getting the practical experience? A man of this calibre, if physically fit, with an open mind that keeps up with the ideas of others, and a hustler, should, I think, be a very valuable man in any organization.

A. B. AYERST,
Pulp and Paper Maker and Mill Engineer.

L. S. Haner to Start Paper Mill

TROY, N. Y., May 5, 1930.—The old Smart Paper Mill near the Rensselaer County boundary line has been purchased by L. S. Haner, of Hudson, who plans to equip it immediately for the manufacture of paper. The structure is now undergoing improvements prior to the starting of operations. The paper to be made in the plant is manufactured from straw, thousands of tons of this product having in previous years been purchased from farmers in this vicinity. Wrapping and cigarette papers will constitute the principal products for which the mill has found a ready market in South America.

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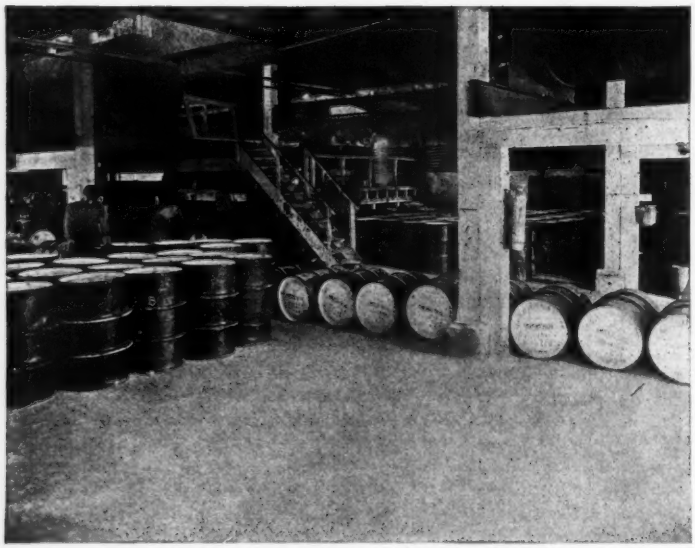

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United States Patents on Paper Making

Compiled by Clarence J. West, Chairman, Committee on Abstracts and Bibliography

Copies of any of the following U. S. Patents may be obtained from the U. S. Patent Office, Washington, D. C., for ten cents each.

JANUARY 7, 1930

R17,553. Paper cup. Rawson P. Dickerson, assignor to United States Envelope Company, Worcester, Mass. Filed Jan. 19, 1929. Original 1,687,716, dated Oct. 16, 1928. 5 claims. (Cl. 229-1.5.)

R17,554. Paper container. George Doscher, Mount Vernon, N. Y. Filed June 14, 1929. Original 1,634,096, dated June 28, 1927. 1 claim. (Cl. 206-29.)

1,742,218. Process for the production of high alpha cellulose fiber. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Apr. 28, 1925. 15 claims. (Cl. 92-13.)

1,742,219. Pulp-treating process. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Dec. 1, 1925. 4 claims. (Cl. 92-11.)

1,742,220. Method of decoloring caustic liquors. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Feb, 13, 1928. 6 claims. (Cl. 23-184.)

1,742,233. Wood-pulp grinder. Fred B. Chappell, Glens Falls, N. Y., assignor of one-half to Glens Falls Machine Works, Glens Falls, N. Y. Filed Mar. 9, 1925. 2 claims. (Cl. 83-75.)

1,742,250. Apparatus for obtaining marbling effect on paper. Francis C. Heywood, George E. Senseney and Russell S. Bracewell, assignors to The Marvellum Company, Holyoke, Mass. Filed Dec. 29, 1924. Renewed Dec. 28, 1928. 20 claims. (Cl. 91-9.)

1,742,294. Pulp or fiber thickener. Albert D. Wood, Canton, N. C. Filed Dec. 18, 1926. 1 claim. (Cl. 92-42.)

1,742,301. Machine for decorating paper. Russell S. Bracewell, assignor to The Marvellum Company, Holyoke, Mass. Filed Aug. 10, 1928. 8 claims. (Cl. 91-9.)

1,742,335. Paper-products machine. Louis Putnam Willsea, assignor to Box Blank Corporation, New York, N. Y. Filed Jan. 27, 1927. 20 claims. (Cl. 93-58.)

1,742,337. Fourdrinier paper machine. Alonzo Aldrich, Beloit, Wis. Filed July 2, 1923. Renewed Aug. 31, 1927. 10 claims. (Cl. 92-45.)

1,742,363. Process and machine for manufacturing wall paper and the like. Alexander Martinek, assignor to Prager Co., Inc., Brooklyn, N. Y. Filed March 13, 1929. 15 claims. (Cl. 101-23.)

1,742,365. Web-drying device. Albert E. F. Moone, Chicago, Ill. Filed Feb. 13, 1926. 7 claims. (Cl. 92-53.)

1,742,410. Manufacture of artificial lumber. Arthur E. Millington, assignor to Fir-Tex Insulating Board Co., San Francisco, Calif. Filed May 26, 1927. 11 claims. (Cl. 92-40.)

1,742,592. Pulp-screening machine. Anton Joseph Haug, Nashua, N. H. Filed Apr. 23, 1927. 2 claims. (Cl. 92-34.)

1,742,991. Suction cylinder for papermaking machines and the like. Roland Blyth Heys, assignor to St. Anne's Board Mill Company, Limited, Bristol, England. Filed Feb. 14, 1929. 4 claims. (Cl. 92-53.)

1,743,080. Manufacture of pulp and treatment of residual liquors, etc. Linn Bradley, assignor to Bradley-McKeefe Corporation, New York, N. Y. Filed Mar. 22, 1926. 15 claims. (Cl. 92-9.)

JANUARY 14, 1930

1,743,215. Process for the production of paper cups. Willoughby F. Hill, Mamaroneck, N. Y. Filed Mar. 20, 1928. 16 claims. (Cl. 93-60.)

1,743,424. Flat-bottom cup-making machine. Harold Carle, assignor to The Vortex Co., Chicago, Ill. Filed Oct. 18, 1926. 48 claims. (Cl. 93-39.)

1,743,572. Folding paper box. Harold Schurr, assignor to Parlor City Paper Box Company, Binghamton, N. Y. Filed June 5, 1928. (Cl. 229-8.)

1,743,702. Fiber container. Paul F. Boeye, assignor to Waldorf Paper Products Company, St. Paul, Minn. Filed Apr. 21, 1926. 4 claims. (Cl. 229-47.)

1,743,703. Composite shipping case. Paul F. Boeye, assignor to Waldorf Paper Products Company, St. Paul, Minn. Filed July 6, 1926. 3 claims. (Cl. 229-23.)

1,743,764. Building material. Albert C. Fischer, assignor to The Philip Carey Manufacturing Company, Chicago, Ill. Filed Jan. 15, 1921. 4 claims. (Cl. 154-459).

1,743,765. Composition constructional unit. Albert C. Fischer, assignor to The Philip Carey Manufacturing Company, Chicago, Ill. Filed May 5, 1926. 6 claims. (Cl. 94-18.)

1,743,808. Fourdrinier paper-making machine. Walter Hamilton, Delahaye, Ontario, Canada. Filed Feb. 27, 1929. 20 claims. (Cl. 92-44.)

1,743,953. Paper-screen-cleaning device. John D. Beatty, Los Angeles, Calif. Filed Mar. 12, 1929. 5 claims. (Cl. 92-30.)

1,743,970. Fourdrinier machine. George D. Kilberry, assignor to Beloit Iron Works, Beloit, Wis. Filed Dec. 2, 1926. 60 claims. (Cl. 92-44.)

JANUARY 21, 1930

1,744,120. Means for testing the dryness of fibrous material. Charles O. Ives, assignor to Brown Company, Berlin, N. H. Filed Dec. 12, 1924. 2 claims. (Cl. 175-183.)

1,744,145. Pulp stock tonnage regulator. Milton O. Schur, assignor to Brown Company, Berlin, N. H. Filed Oct. 25, 1928. 3 claims. (Cl. 92-46.)

1,744,256. Bonded-fiber separator and process of making the same. Raymond C. Benner and John H. Fink, assignors to Prest-O-Lite Storage Battery Corporation, Brooklyn, N. Y. Filed July 12, 1923. 14 claims. (Cl. 136-148.)

1,744,712. Container. Stevens A. Bennett, assignor to Wilson and Bennett Manufacturing Company, Chicago, Ill. Filed Dec. 1, 1925, 6 claims. (Cl. 220-59.)

1,744,714. Constructional material and method of making the same. Albert C. Fischer, assignor to The Philip Carey Manufacturing Company, Chicago, Ill. Filed Apr. 16, 1928. 21 claims. (Cl. 238-9.)

JANUARY 28, 1930

1,744,755. Stencil sheet for use in duplicating. Armand de Waele, assignor to D. Gestetner, Limited, London, England. Filed July 6, 1927. 12 claims. (Cl. 41-386.)

1,744,767. Method of and means for rendering fibrous materials transparent or translucent. Arthur Herman Huisken and Frank Louis Roman, assignors to Western Electric Company, Incorporated, New York, N. Y. Filed Apr. 9, 1925. 2 claims. (Cl. 134-26.)

1,744,811. Absorbent felt and article made therefrom. Henry Philip Shopneck, assignor to Arden Box Toe Company, Dorchester, Mass. Filed Jan. 1, 1927. 4 claims. (Cl. 92-21.)

1,744,818. Paper-cutting machine. August W. Warsen, Brooklyn, N. Y. Filed Oct. 8, 1928. 6 claims. (Cl. 164-49.)

1,744,892. Wire washing device for papermaking machines. Alfred F. Helin, assignor to The Bagley and Sewall Company, Watertown, N. Y. Filed Jan. 5, 1928. 2 claims. (Cl. 92-50.)

1,744,973. Container and method of making same. John H. Kuechenmeister, Clayton, Mo. Filed Mar. 28, 1927. 6 claims. (Cl. 93-55.)

1,745,289. Envelope. John S. Boeker, Lyons, Iowa. Filed Feb. 25, 1928. 2 claims. (Cl. 229-78).

1,745,312. Multiple-valve-bag machine. Carl W. Oman, assignor to The Smith and Winchester Mfg. Co., South Windham, Conn. Filed June 1, 1927. 31 claims. (Cl. 93-8.)

FEBRUARY 4, 1930

R17,580. Abrasive sheet material. Gustave E. Behr, Jr., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Oct. 10, 1929. Original 1,645,937, dated Oct. 11, 1927. 7 claims. (Cl. 51-280.)

1,745,358. Method of and apparatus for detaching sheets of paper of uniform length. Xaver Dambacher, assignor to The Firm Windmöller and Hölscher, G. m. b. H., Lengerich, Westphalia, Germany. Filed Dec. 28, 1928. 7 claims. (Cl. 270-53.)

1,745,385. Box and method of making same. Harry Bridgman Smith, assignor to Hoague-Sprague Corporation, Lynn, Mass. Filed Jan. 12, 1923. Renewed Sept. 28, 1926. 21 claims. (Cl. 93-36.)

1,745,437. Means for waterproofing sacks, bags or other articles. Lewis Motley, Staines, England. Filed Jan. 23, 1929. 3 claims. (Cl. 91-55.)

1,745,473. Milk-bottle cap. James E. Budd, assignor to M. and M. Sales and Mfg. Co., Inc., Portland, Oreg. Filed Oct. 17, 1928. 5 claims. (Cl. 215-51.)

1,745,557. Paper towel and process of producing the same. George A. Richter, Milton O. Schur and Royal H. Rasch, assignor to Brown Company, Berlin, N. H. Filed Apr. 28, 1926. 3 claims. (Cl. 91-68.)

1,745,685. Paper-machine drier. William H. Millspaugh, assignor to The Paper and Textile Machinery Company, Sandusky, Ohio. Filed Mar. 10, 1925. 6 claims. (Cl. 34-48.)

1,745,687. Paper-making machine. Frank A. Peschl, Jackson Heights, N. Y. Filed Dec. 24, 1927. 11 claims. (Cl. 92-38.)

1,745,940. Box-tapping machine. John H. McPike, Alton, Ill. Filed Dec. 24, 1926. 16 claims. (Cl. 93-56.)

1,746,006. Carton. Henry L. Metzger, assignor to Fort Orange Paper Company, Castleton-on-Hudson, N. Y. Filed Feb. 27, 1928. 4 claims. (Cl. 229-17.)

1,746,021. Box-making machine. John Albrecht, Kewaunee, Wis. Filed Jan. 19, 1925. 53 claims. (Cl. 144-268.)

1,746,136. Fireproof padding. William I. Weaver, Camden, N. J. Filed Oct. 11, 1929. 3 claims. (Cl. 91-68.)

FEBRUARY 11, 1930

R17,593. Abrasive article. Francis Gurney Okie, assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Apr. 19, 1928. Original 1,581,657, dated Apr. 20, 1926. 30 claims. (Cl. 51-280.)

R17,594. Drier for veneer, wall board and the like. Arthur J. Vance, assignor to The Coe Manufacturing Company, Painesville, Ohio. Filed July 7, 1928. Original 1,656,802, dated Jan. 17, 1928. 12 claims. (Cl. 34-12.)

1,746,255. Board machine. Clark C. Heritage, Cornell, Wis. Filed Nov. 16, 1927. 11 claims (Cl. 92-43.)

1,746,316. Process for retting textile fibers Morris Marcus, San Francisco, Calif. Filed May 28, 1928. 1 claim. (Cl. 92-5.)

1,746,431. Drying apparatus. August Kolitsch,

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Port Alfred, Quebec, Canada. Filed Jan. 12, 1929. 6 claims. (Cl. 34-48.)

1,746,434. Deckle. Charles Lowe, Bloomsbury, N. J. Filed Mar. 28, 1928. Renewed Dec. 11, 1929. 1 claim. (Cl. 92-42.)

1,746,448. Wrapping machine. John Van Buren, Brooklyn, N. Y. Filed June 19, 1925. 5 claims. (Cl. 93-2.)

1,746,451. Process of making pulp. Sidney D. Wells, assignor to Paper Mill Laboratories, Inc., Quincy, Ill. Filed July 7, 1926. 8 claims. (Cl. 92-13.)

1,746,525. Process of automatically measuring and apparatus therefor. William A. Darrah, Chicago, Ill. Filed Oct. 29, 1928. 15 claims. (Cl. 92-46.) Density of material.

1,746,551. Paper-coating machine. Henry Nendorf and Arthur W. Cole, assignors to Rex Paper Company, Kalamazoo, Mich. Filed Nov. 10, 1928. 7 claims. (Cl. 91-40.)

1,746,623. Method and machine for use in the manufacture of bags. John N. Tooker and John F. Harley, assignors to Arkell and Smiths, Canajoharie, N. Y. Filed Dec. 12, 1927. 17 claims. (Cl. 93-35.)

1,746,648. Cellular product and method of making the same. Max Grunbaum, Brooklyn, N. Y. Filed May 8, 1928. 10 claims. (Cl. 92-21.) Making cellulose products insect-proof.

1,746,708. Paper-making machine. Everett K. Mansfield, White Plains, N. Y. Filed Jan 18, 1928. 10 claims. (Cl. 92-38.)

1,746,888. Coated paper. Gustavus J. Esselen, Jr., and Reed P. Rose, assignors to General Rubber Company, New York, N. Y. Filed Apr. 8, 1925. 3 claims. (Cl. 91-68.)

1,746,919. Means for drying bark or other substances. Ambrose R. White, assignor to International Paper Company, New York, N. Y. Filed Mar. 11, 1925. Renewed July 5, 1929. 3 claims. (Cl. 100-35.)

1,746,937. Apparatus for the automatic determination of moisture in paper or textile webbing. Arthur Ross Harvey, Middletown, Ohio. Filed Mar. 5, 1928. 6 claims. (Cl. 73-51.)

1,747,047. Treatment of residual liquors, etc. Linn Bradley and Edward P. McKeefe, assignors to Bradley-McKeefe Corporation, New York, N. Y. Filed March 28, 1921. 39 claims. (Cl. 23-49.)

1,747,074. Conveying means in machines for manufacturing envelopes, paper bags and the like. Theodor Hugo, Wilmersdorf, near Berlin, Germany. Filed June 29, 1926. 6 claims. (Cl. 93-71.)

1,747,104. Coating machine. Lynn B. Case, assignor to John Waldron Corporation, New Brunswick, N. J. Filed June 11, 1926. 1 claim. (Cl. 91-18.)

FEBRUARY 18, 1930

1,747,189. Wax-lined paper bag. Joseph L. Seiler, assignor to The Warren Manufacturing Company, Riegelsville, N. J. Filed Dec. 31, 1927. 2 claims. (Cl. 229-53.)

1,747,232. Paper and process of making the same. Dozier Finley, assignor to The Paraffine Companies, Inc., San Francisco, Calif. Filed Jan. 17, 1923. 10 claims. (Cl. 92-21.)

1,747,272. Metallic fabric and method of forming seams therein. Nelson W. Webb, assignor to Eastwood Wire Manufacturing Company, Belleville, N. J. Filed June 6, 1927. 7 claims. (Cl. 245-10.)

1,747,273. Woven-wire cloth and method of forming seams therein. Nelson W. Webb, assignor to Eastwood Wire Manufacturing Company, Belleville, N. J. Filed June 6, 1927. 2 claims. (Cl. 245-10.)

1,747,274. Woven-wire belt for papermaking machines and method of forming the same. Nelson W. Webb, assignor to Eastwood Wire Corporation, Belleville, N. J. Filed Mar. 5, 1929. 12 claims. (Cl. 245-10.)

1,747,275. Woven-wire belt for papermaking machine, Nelson W. Webb, assignor to Eastwood Wire Corporation, Belleville, N. J. Filed July 30, 1929. 4 claims. (Cl. 245-10.)

1,747,276. Woven-wire belt for papermaking machines. Nelson W. Webb, assignor to Eastwood Wire Corporation, Belleville, N. J. Filed July 10, 1929. 4 claims. (Cl. 245-10.)

1,747,339. Wall board. Curry O. Walper, assignor to United States Gypsum Company, Chicago, Ill. Filed Mar. 15, 1926. 2 claims. (Cl. 154-45.9.)

1,747,545. Pulp working apparatus. John D. Haskell, assignor to Dilts Machine Works, Inc., Fulton, N. Y. Filed Mar. 2, 1929. 4 claims. (Cl. 92-20.)

1,747,646. Envelope machine and the like. Charles Walter Pettman, Sydney, New South Wales, Australia. Filed Mar. 22, 1929. 5 claims. (Cl. 93-76.)

1,747,684. Pulp strainer. Walter G. E. Smith, Portland, Oregon. Filed Mar. 19, 1928. 7 claims. (Cl. 92-30).

1,747,857. Paper web-feeding machine. Samuel J. Campbell, assignor to Hudson-Sharp Machine Company, Green Bay, Wis. Filed Feb. 6, 1929. 10 claims. (Cl. 270-66.)

1,747,979. Folding paper carton. Henry E. Kondolf, Brooklyn, N. Y. Filed Dec. 28, 1925. 5 claims. (Cl. 229-33.)

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FEBRUARY 25, 1930

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1,748,224. Apparatus for manufacturing fiber board or analogous material. James J. Hinde, Sandusky, Ohio, Filed July 17, 1926. 4 claims. (Cl. 92-38.)

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1,748,761. Process of making paper articles. Nelson E. Funk, assignor to Frank D. Berry, New York County, N. Y. Filed May 21, 1928. 5 claims. (Cl. 154-33.)

1,748,832. Method of degumming fibers. Elisée Charles Duhamel, Roubaix, France. Filed Mar. 15, 1929. 2 claims. (Cl. 92-9.)

1,748,865. Molded-pulp article. Merle F. Chaplin, assignor to Fidelity Trust Company, Portland, Me. Filed Mar. 31, 1928. 5 claims. (Cl. 65-15).

MARCH 4, 1930

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1,749,003. Mercerized wood-fiber tissue and process of preparing same. Milton O. Schur and Royal H. Rasch, assignor to Brown Company, Berlin, N. H. Filed Jan. 5, 1927. 20 claims. (Cl. 260-146.)

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1,749,241. Production of stencil sheets for use in duplicating. Armand de Waele, assignor to D. Gestetner, Limited, London, England. Filed May 3, 1928. 4 claims. (Cl. 41-38.6).

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1,751,552. Method of and apparatus for drying wood pulp and the like. Richard D. Kehoe, New York, N. Y. Filed Feb. 15, 1928. 11 claims. (Cl. 34-12).

1,751,866. Apparatus for making fibrous material. Ralph L. Loomis, assignor to C. F. Burgess Laboratories, Inc., Madison, Wis. Filed May 11, 1929. 16 claims. (Cl. 92-39).

1,751,889. Apparatus for impregnating roofing felt. Charles Roy Sculley, East St. Louis, Ill. Filed Jan. 18, 1929. 2 claims. (Cl. 91-46).

1,751,935. Waterproof fiber articles and method of manufacturing the same. Everett W. Lovering and Wallace B. Van Arsdel, assignors to Brown Company, N. H. Filed Dec. 12, 1928. 14 claims. (Cl. 91-68).

1,751,953. Plaster-board manufacture. Charles Spengler, assignor to Certain-teed Products Corporation. Filed Nov. 17, 1926. 4 claims. (Cl. 154-1).

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1,751,988. Adhesive. Harry F. Gardner, assignor to Certain-teed Products Corporation. Filed Mar. 31, 1922. 1 claim. (Cl. 87-17).

1,752,005. Covering for plater rolls. James T. Johnston, assignor to American Writing Paper Company, Holyoke, Mass. Filed July 13, 1928. 7 claims. (Cl. 92-47).

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1,752,079. Apparatus for manufacturing paper. Tom Harvey, Middletown, Ohio Filed Oct. 31, 1928. 5 claims. (Cl. 92-43).

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1,752,125. Gauge for paper-cutting machines. Clarence O. Thorne, Watervliet, Mich. Filed July 2, 1928. 7 claims. (Cl. 164-59).

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New TAPPI Members

S. F. Acree, principal chemist waste cellulose investigations, Bureau of Standards, Washington, D. C.

F. L. Chappell, manager, Sheffield By Products Company, Hobart, N. Y.

E. E. Dawson, Jr., general superintendent, Byron Weston Company, Walton, Mass.

Clarence Enghouse, charge technical control dept., Crown Willamette Paper Company, West Linn, Ore.

A. E. Gibbs, manager research and development, Pennsylvania Salt Manufacturing Company, Philadelphia, Pa.

R. W. Hall, research work on insulating paper, General Electric Company, Fort Wayne, Ind.

A. Lewenstein, chief chemist, Appleton Coated Paper Company, Appleton, Wis.

F. H. Osborne, chemical engineer, C. H. Dexter & Sons, Windsor Locks, Conn.

C. R. Swett, chief chemist, Escanaba Paper Company, Escanaba, Mich.

M. C. Tengler, engineer, Hammermill Paper Company, Erie, Pa.

H. E. Tiffany, director, Wilmington Testing and Research Laboratories, Wilmington, Del.

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Screen Analysis As An Aid In Pulp Evaluation

By E. R. Schafer[1] and L. A. Carpenter[2]

In the course of recent work at the oFrest Products Laboratory on the utilization of Douglas fir sawmill waste for insulating boards it became desirable to obtain information regarding the various sized aggregates of which the material under process was composed. The separation was effected by means of an experimental size flat plate diaphragm screen provided with a series of interchangeable slotted plates, such as are ordinarily used in pulp mill screening operations. The method was later modified for application to evaluating groundwood and chemical pulps.

Screen Analysis of Insulating Boards

The plates used in the experimental diaphragm screen shown in Plate 1 were 10 inches wide by 12 inches long and contained 66 slots, each 4 inches long. The widths of the slots in the series of plates were 0.020, 0.015, 0.012, and 0.008 inch, respectively. The material was first screened on the screen having the smallest slots. The fraction of the material passing through the screen was caught in a drain box with a fourdrinier wire bottom. The screen plate was then replaced by the next larger in the series and the screening repeated. The material during each screening was vigorously agitated on the screen with water sprays. The various sized fractions blended into each other with the continued screening. One-hundred grams of the original fiber required about 10 minutes screening on each plate to effect a practical separation. The various fractions obtained in this way were then dried and weighed.

The screen analysis and other properties of three well known commercial insulating boards and one of an experimental Douglas fir board are given in Table 1. These boards are composed of various materials that have been processed in different ways. It is, therefore, not surprising to find no general relationship between the strength properties and the screen analysis. Nevertheless, a change in the fibrous composition of any one of them would undoubtedly influence not only the strength properties but its density, formation, insulating value and appearance. Having developed a product of satisfactory quality, the screen analysis, therefore, presents a means of control in manufacture. Plate 2 shows the fiber aggregates obtained from insulating boards.

Screen Analysis of Ground Wood and Chemical Pulps

Since ground wood pulp will practically all pass through a plate with the usual 0.008-inch width slots, the separation of this grade of pulp must be made with screens with openings smaller than those obtainable in the form of slots. For this purpose a series of screens consisting of various mesh wires of the Tyler standard screen scale were soldered to perforated brass plates. Each plate was covered first with a piece of 16-mesh wire screen upon which a finer mesh screen was soldered to the plate around the edge and in the center to hold the wire rigid. The series of fine mesh screens were 24, 32, 42, and 60 mesh which, respectively, have screen openings of 0.701, 0.495, 0.351 and 0.246 mm. in width. The ratio of the width of screen opening in one screen to that of the next one in series was practically equal to the square root of 2.

The screening procedure consisted in using these plates in the diaphragm apparatus in the order of their size. The fraction of the material passing through the screen was caught up in a catch screen the bottom of which was made up of a piece of 60-mesh fourdrinier wire. When the fiber was screened through the 60-mesh

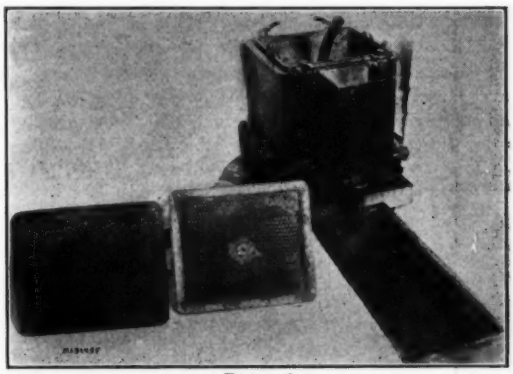

PLATE 1

Experimental diaphragm screen.

wire screen about 50 per cent or more of the total fiber was lost through the catch screen. In order to obtain enough of the fine fraction to determine its properties, a piece of linen toweling was substituted for the wire screen in the catch box. By this method over 75 per cent of the fiber passing the 60-mesh screen was reclaimed. In an ordinary screen analysis, however, no attempt is made to save this fraction. One hundred grams on the basis of the weight of oven dry pulp was used for the test. After screening, all other fractions were dried and weighed and the portion passing through the 60 mesh screen was obtained by subtraction.

The Coarseness Modulus

A factor that expresses a specific characteristic of the pulp may

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TABLE 1—PROPERTIES AND DIAPHRAGM SCREEN ANALYSIS OF THREE COMMERCIAL INSULATING BOARDS AND ONE EXPERIMENTAL INSULATING BOARD MADE FROM DOUGLAS FIR SAWMILL WASTE

	Diaphragm screen analysis					Properties of the boards				
								Modulus of		
Board	Retained on 0.020 inch slots	Passing through 0.020 inch slots and retained on 0.015 inch slots	Passing through 0.015 inch slots and retained on 0.012 inch slots	Passing through 0.012 inch slots and retained on 0.008 inch slots	Passing through 0.008 inch slots	Thickness of boards	Density *b*	Elasticity *c*	Transverse strength	Rupture
	Per cent	Per cent	Per cent	Per cent	Per cent	Ins.	Lbs.	Lbs./sq. in.	Lbs./sq. in.	Lbs./sq. in.
Commercial board A.....	7.1	18.7	14.1	18.7	41.5	0.47	1.24	I 21000	183	282
								A 18800	162	276
Commercial board B.....	3.8	11.2	11.5	27.1	46.4	.44	1.77	I 36600	278	374
								A 36500	279	343
Commercial board C.....	4.6	4.0	25.0	30.0	36.4	.50	1.49	I 39100	225	464
								A 39100	225	464
Experimental Douglas fir board	3.4	6.0	10.6	19.9	60.1	.41	1.44	140,000	256	358

a All boards were brought to a moisture equilibrium in an atmosphere of 65 per cent relative humidity and 72° F. immediately before testing.
b Density expressed in pounds per 1000 sq. ft. per .001 inch thickness.
c I indicates "In machine direction;" A, "Across machine direction."

be calculated from the screen analysis. This factor has been termed the "coarseness modulus." Its value is calculated by adding the cumulative percentages of the[3] screen analysis (omitting the fraction that passes the finest screen) and dividing by 100. The modulus was first used by Abrams[4] in the grading of concrete mixtures. In such work it is called the "fineness modulus." The term "coarseness modulus" is preferred for pulp evaluation as the value is in direct proportion to the quantity of long or coarse fibers present. A typical screen analysis of commercial spruce groundwood pulp sample B, is given in Table 2. The following is the calculation of the coarseness modulus of that pulp.

Fraction	Cumulative-Per cent
Retained on 24 mesh screen	11.4
Retained on 32 mesh screen	16.8
Retained on 42 mesh screen	24.2
Retained on 60 mesh screen	39.0
Passing 60 mesh screen is omitted	——
Total	91.4
Coarseness modulus	0.91

Average Fiber Length of a Pulp

The determination of the average fiber length of groundwood pulp is a difficult procedure with the microscope because of the inability of obtaining the relative quantities of the shorter fibers. The screen analysis has enabled the average fiber length to be obtained more readily. The pulp is screened in the manner just described, care being taken to obtain a representative sample of the material passing the finest screen. The average fiber length of each fraction is obtained with the microscope. This is relatively easy as the fiber lengths in each fraction are nearly equal.

[3] The cumulative percentage is the proportion of material that would remain on a screen if it were the only one used.

[4] Abrams, D. A. "Design of Concrete Mixtures," Bul. 1, Dec. 1925, Structural Materials Research Laboratory, Lewis Institute, Chicago.

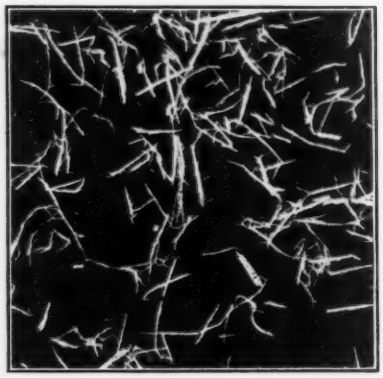
TABLE 2
DIAPHRAGM SCREEN ANALYSIS SHOWING COARSENESS MODULUS AND AVERAGE FIBER LENGTH OF VARIOUS TYPES OF GROUND-WOOD PULP[a]

		Diaphragm screen analysis						
			Retained between					
Sample	Species	Retained on 24 mesh Percent	24 and 32 mesh Percent	32 and 42 mesh Percent	42 and 60 mesh Percent	Passing 60 mesh Percent	Coarseness modulus	Average fiber length (calculated) mm.
A	Jack pine	31.5	11.5	8.6	5.0	43.4	1.83	0.411
B	Spruce	11.4	5.4	7.4	14.8	61.0	0.91	0.296
C	Aspen	7.9	9.0	18.6	13.0	51.5	1.09	0.337
D	Douglas fir	8.6	6.0	8.6	12.4	64.4	0.82	0.285
E	Black gum	—	5.5	6.2	13.0	75.3	0.42	0.249
Average fiber length		—[b]	mm. 2.1	mm. 1.4	mm. 0.7	mm. 0.2		
Smallest screen opening through which fraction has passed		—	0.701	0.495	0.351	0.246		

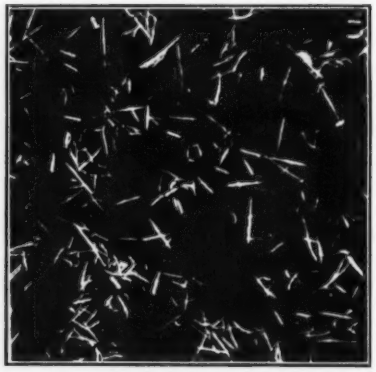
[a] These pulps are to be considered as types and not as representative of the species.

[b] The average fiber length of the coarsest fraction is different for each pulp. A = 3.7 mm.; B = 3.0 mm.; C = 2.6 mm.; D = 2.5 mm.

The method of calculating the average fiber length of the entire pulp may be illustrated by Table 3, which is the calculation of the spruce pulp. It is assumed that the average diameter of the fibers is approximately the same in all fractions and that all fibers have the same specific gravity. Then all fibers have the same length per unit weight. Therefore, in a quantity of 100 unit weights of pulp the weight of a given fraction (that is, the percentage by weight) will represent the summation of the lengths of

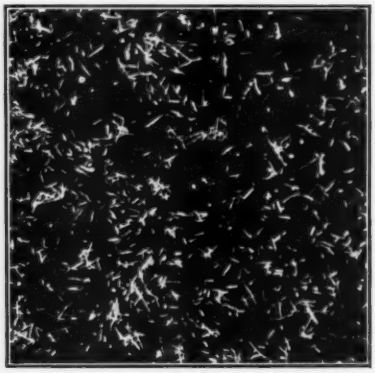


Retained on 0.020 inch width slots.

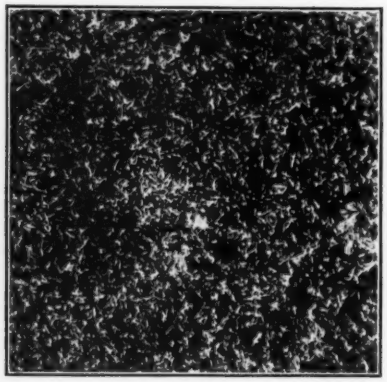


Passing through 0.020 inch width slots and retained on 0.015 inch width slots.

Passing through 0.015 inch width slots and retained on 0.012 inch width slots.



Passing through 0.012 inch width slots and retained on 0.008 inch width slots.



Passing through 0.008 inch width slots.

PLATE 2

Fibers obtained in the fractionation of a pulp used for insulating board. Reduced to 0.9 natural size.

Original pulp.

Retained on 24 mesh.

Retained between 24 and 32 mesh.

Retained between 32 and 42 mesh.

Retained between 42 and 60 mesh.

Passed through 60 mesh.

PLATE 3

Fibers obtained in the fractionation of a spruce ground-wood pulp. Magnifica tion × 23.

all the fibers in that fraction. The values in Column A, therefore in addition to being percentages by weight, represent total fiber lengths, which, if divided by the values in Column B, the average fiber lengths, will give the relative total number of fibers in the various fractions. These are given in Column C. The sum of the values in Column A divided by the sum of the values in Column C is, therefore, the average fiber length of the pulp.

TABLE 3
CALCULATION OF AVERAGE FIBER LENGTH OF SPRUCE PULP

Fraction	Amount A Percent	Average fiber length B mm.	Relative total number of fibers C
Retained on 24 mesh screen	11.4	3.0	3.8
Retained between 24 and 32 mesh screen	5.4	2.1	2.5
Retained between 32 and 42 mesh screen	7.4	1.4	5.3
Retained between 42 and 60 mesh screen	14.8	0.7	21.2
Passing 60 mesh screen	61.0	0.2	305.0
Totals	100.0		337.8

Average fiber length of the pulp $\frac{100}{337.8} = 0.296$

Relation of Coarseness Modulus to Average Fiber Length

The average fiber lengths and coarseness moduli of five types of groundwood pulp were calculated as described above. The fiber lengths of various fractions obtained with the microscope showed that the average length of the fibers passing a given screen and remaining on the next in series was practically constant for all pulps. A doubtful factor that might enter into the calculation would be the fiber size of the finest fraction, which in some pulps might be shorter than 0.2 mm. The error that might be introduced by assuming the fiber length of this fraction to be 0.2 mm. in all pulps was believed to be no greater than would obtain in determining the average size of the particles by the microscope.

The screen analyses, coarseness modulus, and calculated average fiber lengths of the pulps are given in Table 2. The relation between the coarseness modulus and the average fiber length is shown in Fig. 1. Within the limits of practical operation the curve is linear. Extrapolating the curve below the point E indicates that pulp with a coarseness modulus of zero (that is, all of the pulp passes a 60 mesh screen) will have an average fiber length of 0.175 mm. While the average length of the fibers passing the 60-mesh screen can have any value between the size of opening in the screen and zero, it is noted that the value 0.175 mm. is quite close to the observed value of 0.2 mm. for material passing this screen.

It might appear that a closer relation between coarseness modulus and average fiber length would be obtained if the fraction

passing the 60 mesh screen was included in the calculation of the coarseness modulus. It is apparent, however, that the cumulative percentages retained on screens smaller than those used in the set cannot be calculated except by means of curves such as shown in Fig. 3. If the material passing the 60-mesh screen were considered as all being retained on one of infinitely small mesh the cumulative percentage on that screen would be practically 100. This, if used in the calculation of the coarseness modulus in effect is the same as adding 100 to the value. The work so far has not revealed the necessity of increasing the coarseness modulus value by any of these methods in order to properly interpret the results.

The relation between the average fiber length of the material retained between the screens and the smallest opening through which the material has passed is shown in Fig. 2. Above a screen opening of 0.246 mm. (60 mesh), which is the smallest screen opening in the series, the relation appears to be linear, and it is interesting to note that the average length of fiber that passes a given screen above this size (and is retained on the next in series) is longer than the width of the screen opening. The length of fiber

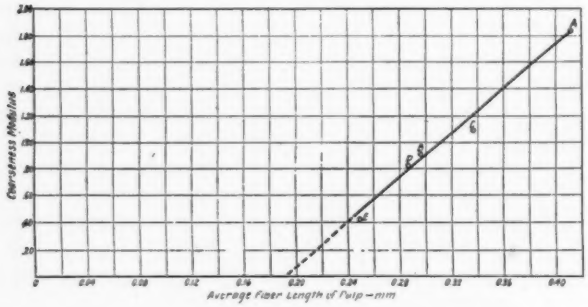


FIG. 1.

Relation of coarseness modulus to the average fiber length of various types of ground wood pulp. Points are lettered to correspond to samples in Table 2.

passing a given screen may be calculated from the equation of Curve 1 in Fig. 2 as follows:

$$Y = 4.5X - 0.9$$

where Y = average fiber length of the fraction in mm.

X = width of screen opening in mm.

Curve II, Fig 2, shows that the fiber lengths are also longer than the diagonal of the screen opening. The length of the diagonal of course being X times the square root of 2. Under the action of the

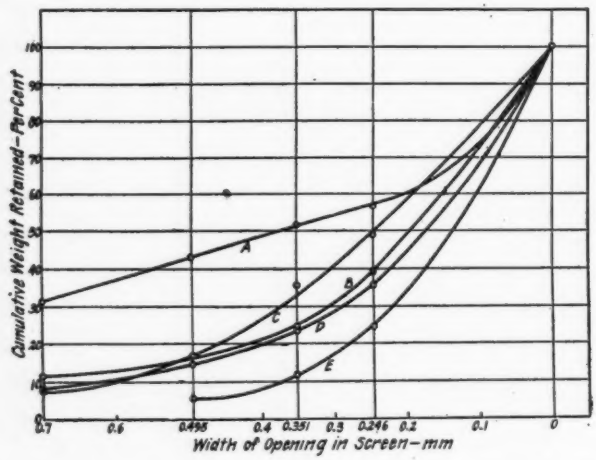


FIG. 3.

Cumulative weight retained on screens for various types of ground wood pulp. Constant ratio between screen openings = $\sqrt{2}$ = 1.414. Curves are lettered to correspond to samples in Table 2.

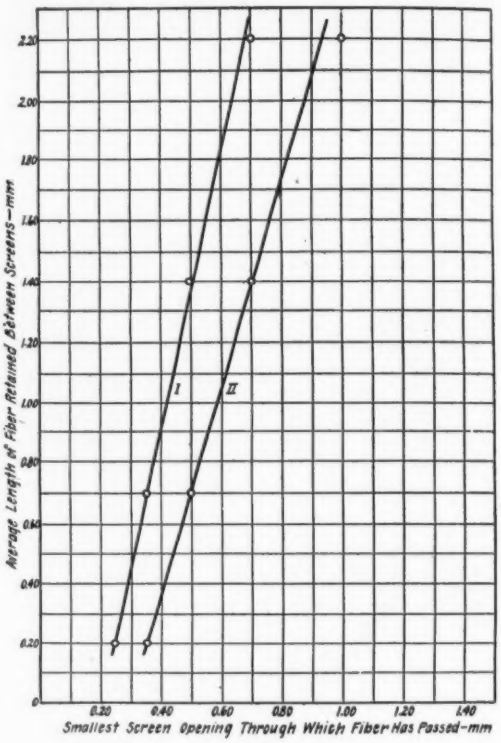


FIG. 2.

Relation of average length of fiber retained between screens and the smallest screen opening through which the fiber has passed. Abscissas for curve I are the width of the screen opening, for curve II the diagonal of the screen opening.

diaphragm it is evident that the fibers are pulled through the screen at an angle, or if deposited across the screen opening, such fibers that are of a certain minimum length are bent and pulled through. It is unlikely that they pass through with the longitudinal axes perpendicular to the screen. If such were the case the sharp separation as to fiber length would not be obtained.

The cumulative weights of material (expressed as percentages) are plotted against the width of the screen opening in Fig. 3. Such curves are useful in comparing materials as to their size aggregates and for determining the amounts of material that will be retained on intermediate size screens not used in the testing series. With respect to pulps, if curves are superimposed and found to be

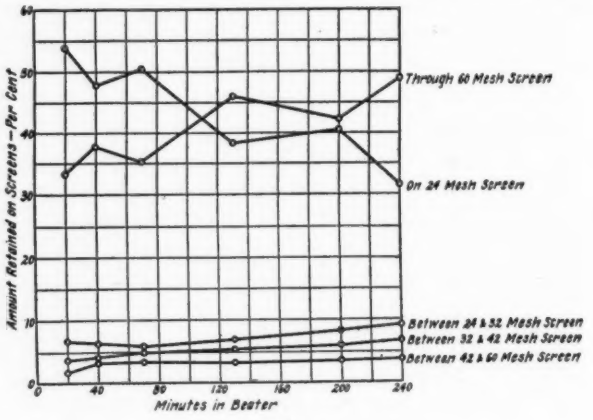

Through 60 Mesh Screen
On 24 Mesh Screen
Between 24 & 32 Mesh Screen
Between 32 & 42 Mesh Screen
Between 42 & 60 Mesh Screen
Amount Retained on Screens—Per Cent
Minutes in Beater

FIG. 4.

Screen analysis of a spruce-birch sulphite pulp at various intervals of beating for glassine stock.

similar, the pulps may possibly possess similar properties, depending, of course, on the nature of the pulps and the processes through which they have passed.

The curves may also be drawn with the cumulative percentage plotted against the logarithm of the width of the screen opening. Abrams[4] has pointed out that when plotted in this way the coarseness modulus has a numerical relationship to the area under the curve.

The coarseness modulus is an abstract number and identical values may be obtained from numerous sets of individual numbers representing screening analyses. It can not, therefore, be used independent of other tests for the determination of quality. It is believed, however, that the value is quite useful in evaluating pulps as to average fiber length when the pulps are of the same class, such as would obtain, in general, in pulp mill operations.

The idea presents itself of the fractionating of pulp, not only as a quantitative method for control purposes, but also on a large scale for the production of pulp for particular purposes. The fractions thus obtained may be blended to produce pulps having certain desired properties. Data have been obtained which show relationships between the strength properties of groundwood pulp and the properties of the various fractions. These are to be presented in a future publication.

Plate 3 shows photomicrographs of the spruce pulp discussed here and of the fractions obtained in the screen analysis.

The screen analysis has been used in a study of the beating of a mixture of spruce and birch sulphite pulps for glassine stock. Samples were taken from the beater at intervals. The development of hydration and strength of the pulp was followed by means of the freeness and strength tests. The cutting action of the beater roll was followed by the screen analysis. The results of the screen analysis are shown in Fig. 4.

It may be noted in this case that the cutting action of the roll (which was of stone) was rapid during the first 120 minutes. Cutting was less rapid during the next 80 minutes but increased again during the last period of 40 minutes. It may be noted further that an increase in the amount of material that would pass the 60-mesh screen was accompanied with an approximately equal decrease in the amount retained on the 24-mesh screen. The intermediate fractions remained practically constant in amount throughout. This example is cited to illustrate a use the screen analysis may serve in determining what is happening to pulp in process.

A method of determining the amounts of the various sized aggregates in a pulp has been devised at the Forest Products Laboratory. It involves the use of a diaphragm flat plate screen provided with a series of interchangeable plates. The method is of service in evaluating the quality of coarse fibers used for insulating boards and of more finely disintegrated fibers and pulps, such as ground wood and chemical pulps. A method of calculating the average fiber length of a pulp from the screen analysis is given. A factor termed the "coarseness modulus" is suggested as numerically expressing the fiber length or particle size characteristics.

Walworth Company Joins TAPPI

Walworth Company, the oldest manufacturer of valves and fittings in the United States, is TAPPI's most recent contributing member. The company was founded in 1842 as the partnership of Walworth and Nason, pipe merchants. Shortly thereafter, owing to the difficulty of procuring fittings from abroad, the partners established a small plant near Boston to manufacture cast iron fittings. From this grew an industry comprising five large plants in which are manufactured today more than 100,000 tons annually of bronze, steel and iron valves and fittings, cast iron pipe, pipe tools and pipe accessories, including well points and well point supplies. The plants are located in Boston; Kewanee, Ill.; Greensburg, Pa.; Attalla, Ala., and East St. Louis, Ill. The company also operates pipe fabrication plants at Etna, Pa., and Boston.

Soon after the start of the business, Nason, the original partner, dropped out and the firm became J. J. Walworth & Company. From 1842 until 1872 it operated under this name; then was incorporated in Massachusetts as Walworth Manufacturing Company. In 1925 a third change was made, in the interest of simplicity, and it became the Walworth Company.

The history of Walworth is a record of slow but steady growth from the start until 1914; when the company, under new leadership, began to build rapidly until today it is catering to a world market and is doing a business of ten times that done prior to 1914.

J. J. and C. C. Walworth, brothers, were the owners and leaders in the business during the early days. The latter, an engineer, was the originator of many valve patterns which are standard equipment now. His contribution to the engineering science of the industry was such as to make him one of the outstanding individuals in the history of piping development in America.

Howard Coonley, a young Chicagoan at the time, became president of the company in 1914. He found a company that had been hampered for some years by lack of proper management. Its markets were confined to the northern Atlantic seaboard.

Mr. Coonley saw an opportunity for growth and development. He purchased the Kewanee Works, a subsidiary property of the United States Steel Corporation, in 1917, thereby increasing the manufacturing capacity of the company threefold. Through his planning and leadership, markets were developed to take the output of the new factory. Despite his absence during the World War, when he served as Vice President of the Emergency Fleet Corporation, Walworth continued to grow, and in 1925 a further step in the expansion program was taken with the purchase of the Kelly & Jones Company plant at Greensburg and the plant of the National Pipe & Foundry Company in Attalla, Ala. The latest step in Walworth development was the purchase of the Westcott Valve Company plant in East St. Louis last year.

Meanwhile, some significant new steps had been taken by Walworth Company toward improvement of its products to keep abreast of the rapidly changing developments of the piping industry. Among these were the addition of a line of steel valves and fittings for high pressures and temperatures; the development of new lines of bronze valves and iron body valves for process work and the bringing out of new lines of alloy cast pipe for service where corrosion and erosion attack iron and steel piping. Walworth engineers delved deep into the sciences of metallurgy, chemistry and physics to develop new metals for valve trim materials to combat heat, chemical action and high pressures.

Sales policies were reshaped to take care of new industrial needs. An engineering sales division was formed to study the requirements of various specialized fields, such as oil refining and production, paper making, chemical manufacturing, central station power and railroad transportation. There was formed a close link between the activities of salesmen and the engineering and production departments within the company, all of which aimed to serve the needs of the various industries to best advantage. Through jobber contacts Walworth materials were made available in all parts of this country, and resident agents represented the company in all the principal foreign countries. Walworth Company's exports today are said to be the largest in the valve and fittings line.

For paper and pulp mill service, Walworth products include, aside from the standard lines of bornze, iron body and steel valves for all practicable ranges of pressure and temperature conditions, these special items that are particularly adapted to such service: 200 pound double disc union bonnet gate valves with nickel alloy discs. 200 and 300 pound globe valves with renewable nickel alloy seats and discs. All-iron gate and globe valves for handling chemicals which attack brass and its alloys. Kewanee unions, with corrosion-resisting forged steel to forged bronze seats. Unions of all steel suitable for high pressures and temperatures. Large sizes of all bronze gate valves. Chrome-nickel-iron pipe with threaded ends, made up with screwed fittings. Ni-Resist pipe, an alloy with a high nickel content, which is highly resistant to rust and other forms of corrosion and erosion.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

By Clarence J. West, Chairman

For additional information regarding these abstracts subscribers should address the chairman of the Abstracts Committee, Dr. Clarence J. West, National Research Council, 21st and B Streets, Washington, D. C.

Raw Material

Dissection of Wood Fibrils by Chemical Means. George J. Ritter. U. S. Forest Products Laboratory, Madison, Wis. Ind. Eng. Chem. 21, 289-290 (March 1929).—It has been found that the fibrils composing the layers of hardwood fibers and softwood tracheids are themselves composed of tiny, natural buildings units, which are spindle-shaped and are arranged normally with their pointed ends overlapping slightly, thus forming a single, slender, threadlike structure (fibril) of a diameter approximately uniform throughout its entire length, which are designated as "fusiform bodies." The presence of a cementing material (that acts similarly to the lignin between the wood fibers) to hold the units together has not been definitely proved, but seems probable. Separation of the fibrils into the "fusiform bodies" was obtained by treating delignified fibers with 68 to 77% phosphoric acid at 60° to 65°C. for 15 to 20 min. Previous treatment of the fibers seems to affect the ease with which the fibrils may be chemically dissected into the smaller units.—A.P.-C.

Cornstalks for Paper Making. Anon. Paper Trade J. 88, No. 10, 49 (March 7, 1929); Paper Mill 52, No. 10, 20, 26 (March 9, 1929); Pulp Paper Mag. Can. 27, 418 (March 21, 1929).—Tests made at the United States Bureau of Standards on the cornstalk pulp produced at the Danville, Ill., mill of the Cornstalk Products Co., and on paper in the composition of which this pulp entered, showed that these pulp and papers have excellent strength qualities, being superior to high grade bleached sulphite pulp and papers, particularly as regards folding endurance. They are lacking in cleanliness, however, as they contain numerous black dirt specks and unreduced particles of cornstalk; so that the pulp would be suitable only for lower grade paper, such as news print. In wet lamp form, the pulp is rapidly attacked by bacteria, which discolors it very noticeably. It makes a hard and "rattly" sheet, indicating that it would be more suitable for writing than for printing paper.—A. P.-C.

Cellulose from Cereal Straws. Sidney D. Wells, Paper Mill Laboratories, Inc., Quincy, Ill. Ind. Eng. Chem. 21, 275-278 (March 1929).—Cereal straws constitute an enormous source for cellulose which is readily gathered and capable of purification by very mild processes. Caustic soda in dilute solution will remove more than half of the incrusting substances at room temperature and more than 70% at 100°C. Higher temperatures are even more effective. Sodium carbonate has considerable action at 100°C., and at higher temperatures is a very effective agent, especially in the presence of sulphur compounds of a reducing nature. Milk of lime is the most commonly used agent in technical operations, but it is useful only where the purity of the pulp is of minor importance or where it is to be further purified with chlorine. Chlorine is an effective agent used alternately with 1% caustic soda, and yields of 55% of white fiber may be obtained. Yields of 66% may be obtained by cooking with sodium carbonate and sulphur and bleaching with calcium hypochlorite in several steps. Yields of 43% of pentosan, lignin, and ash-free cellulose, comparable with alphacellulose from cotton or wood pulp, may be obtained by alternate chlorine and caustic soda treatments. Xylan may be extracted from straw with caustic soda to the extent of almost 15%. Another 9% of furfural-yielding components remains, which can be largely removed after chlorinations by further extraction with caustic soda. The spent cooking liquors from digestion with sodium carbonate and sulphur are capable of hydrolysis and fermentation with production of lactic acid, acetic acid, and other valuable products in promising quantities.—A. P.-C.

Pulping Flax Straw. VI. Properties of Flax Straw Cellulose and Its Value in the Cellulose Industries. Earl R. Schafer and Mark W. Bray. U. S. Forest Products Laboratory, Madison, Wis. Ind. Eng. Chem. 21, 278-280 (March 1929).—The chemical composition of seed flax straw and its principal components, and of pulps prepared by various processes from flax straw and bast fiber are tabulated.—A. P.-C.

Production of High Grade Pulp from Certain Colonial Plants Such as Cyperus Papyrus. Papeteries Navarre. Fr. Pat. 648, 385, June 21, 1927.—By subjecting to a combined mechanical and washing treatment for about 1 hour with either cold or hot water, about 30% of water-soluble matter and 20% of non-cellulose insoluble matter, based on the dry weight of the material, are removed. The material can then be pressed and dried and shipped economically to a paper making country. It can then be cooked, either at atmospheric or higher pressure, with caustic soda solution containing not over 10% alkali on the dry weight of the semi-pulp, giving a 65 to 80% yield (on the same basis) of first quality and exceptionally strong pulp with a much lower alkali consumption than by the usual processes.—A. P.-C.

Paper Making Qualities of Mangrove Wood. L. Vidal and M. Aribert. Ecole Française de Papeterie, Grenoble. Agronomic Coloniale 17, 203 (1928); Bull. Imp. Inst. 26, 493 (1928).—Three species of mangrove from Madagascar were studied, the pulping tests being carried out using 25% of caustic soda (on the weight of the wood) at a concentration of 18° Baumé for 8 hrs. under a pressure of 5 kilos. *Rhizophora mucronata* ("Honkolahy") had a density of 0.94, a cellulose content of 48.2 per cent, and alcohol-ether extract of 4.5 per cent, and gave 47 per cent of a pulp which was very difficult to bleach (yielding 42 per cent of bleached pulp). *Bruguiera gymnorhiza* ("Tsilolona") had a density of 0.95, a cellulose content of 46.0 per cent, an alcohol-ether extract of 2.9 per cent and yielded 46 per cent of pulp which was extremely difficult to bleach (yielding 39 per cent of bleached pulp). *Ceriops boiviniana* ("Honkovavy") had a density of 1.03, a cellulose content of 45.0 per cent, an alcohol-ether extract of 4.9 per cent, and yielded 47.5 per cent of pulp which was even more difficult to bleach than the preceding ones. Satisfactory pulping of these woods would demand such severe treatment that the cost would be prohibitive, and the papers which they furnish are very weak. The manufacture of bleached pulp would be impracticable; but it might be possible to prepare a course unbleached pulp specially designed for wrapping paper.—A. P.-C.

Cellulose from Cornstalks. H. A. Webber. Iowa State College, Ames, Iowa. Paper Mills 52, No. 1, 1, 4, 6, 8 (Jan. 5), No. 2, 24-25 (Jan. 12, 1929).—A review of the structure and chemical composition of the corn plant, with a brief summary of the work carried out at Iowa State College on the economic possibility of producing sufficient cellulose of satisfactory quality from cornstalks. The sodium hydroxide cooks give best results when every-

thing is considered, although pulps made with the halogens require less bleach. In general, the bleach consumption of the sodium hydroxide cooks amounts to 20 per cent of the weight of the dry pulp and there is a loss of about 10 per cent of the pulp during the bleaching process, or about 3 to 3.5 per cent of the original weight of stalk, giving an over-all yield of good paper-grade pulp amounting to 30 to 32 per cent of the original weight of the stalks, with an alpha-cellulose content of 70 to 75 per cent. The soda, kraft and halogen processes make pulps suitable for magazines, books and writing paper; the lime-soda and sulphite processes give a weaker paper, suitable perhaps for toilet paper and similar grades; while the lime pulp seems suitable for boxboard and similar grades where an unbleached pulp can be used. Cornstalks are more easily reduced to cellulose than are woods, but they are more bulky and give a lower yield of cellulose which requires slightly more bleach. The fibrous outer shell used alone makes the strongest paper; the pith used alone gives a translucent parchment-like paper; while paper varying between these two extremes is obtained when the entire stalk is used. The pulp made from the fiber requires less bleach than that from the pith, although the fiber is more colored in the raw state. The leaves and husks produce the weakest paper. When the entire stalk is used, a good paper can be produced if the cook is relatively short (1.5 to 2 hours) and the beating is not too severe, as in this case the entire pith is not reduced to a colloidal condition, but some of it is drawn out into fibrous forms which interweave with the more resistant fibers—A. P.-C.

Process and Apparatus for Simultaneously Making Sugar and Paper Pulp from Cane. A. Vasquez assignor to Vazcane Process, Inc. U. S. pats. 1,688,904 and 1,688,905 Oct. 23, 1928.—The sugar-cane is pressed against a wet grindstone to separate it into fibers, and the ground material is passed through a series of washing vats in counter-current flow to fresh water to wash the fibers, and the sugar is recovered from the wash water. No. 1,688,904 covers the process and 1,688,905 the apparatus.—A. P.-C.

Utilization of Wood Waste and "Waste" Woods Through the Semi-Chemical Pulping Process. C. E. Curran. Forest Products Laboratory, Madison, Wis. Paper Trade J. 88, No. 5, 66-68 (Jan. 31, 1929).—Experiments in the application of the semi-chemical process (impregnating chips under pressure with a solution of sodium bicarbonate, removing the excess liquor, and cooking only with the reagents absorbed, the softened chips being then reduced to pulp by appropriate refining) are described. Semi-chemical pulps from these sources are suitable for incorporation in various types of paper boards, including insulating boards, replacing more expensive pulps and thus offering an outlet for raw materials that at present are largely economic wastes. The favorable results of the experiments, the present success of existing commercial semi-chemical pulping units, the experimental development of a large number of commercial paper grades from semi-chemical pulp, and the opportunity afforded for the reduction of an economic waste, all suggest the desirability of widely extending the application of the semi-chemical process.—A. P.-C.

Production of Pulp from Flax Straw, Hemp, Jute Waste, Straw, etc. I. G. Farbenind. A. G. French pat. 626,388, Dec. 17, 1926.—The raw material (1000 parts) mixed with 3500 parts of a solution containing 180 parts of sodium bisulphite, 54 parts of sodium sulphite and 10 parts of magnesium chloride, is heated for 1 hour at 110°C. and then for 10 hours at 145° C to 150°C. After removal of the liquor, the product is washed several times with water and worked up in the usual manner; it is very resistant and bleaches a pure white.—A. P.-C.

Cellulose and Lignin

The Oxidation of Alkali-Cellulose with Gaseous Oxygen. Charles Draz. Rev. Univ. Soies Et Soies Artif. 3, 729-737 (July), 863-867 (Aug.), 1139-1141 (Oct. 1928).—Evidence is cited that the reaction of alkali-cellulose with oxygen (air) may be of little significance. Cotton and hydrated cellulose (cuprammonium rayon) were allowed to swell in caustic soda solutions varying in concentration from 10 to 50 g. per 100 cc. The excess solution was pressed out and the mass exposed to oxygen, the absorption being determined at intervals. With increasing alkali concentration the oxygen absorption increased and was slightly greater in the cuprammonium rayon. This absorption increased up to 30% caustic soda concentration and reached an equilibrium in 15 days. Alkali consumption amounted to more than two-thirds of the oxygen absorbed ($C_6H_{10}O_5 + 6O_2 + 12NaOH = 6Na_2CO_3 + 11H_2O$). Decreased reactivity at higher caustic soda concentration is suggested as due to further compounds being formed between the cellulose and the alkali. With the same alkali concentration, the degree of oxygen absorption varied with the hydration and amount of caustic soda retained by the fibers after compression. The oxidation products are yellow to brown in color and gelatinous in nature, generally soluble in caustic soda. When the yellow colored solutions were acidified large amounts of carbon dioxide were evolved and the alkali-soluble cellulose was precipitated as a white, voluminous mass, which was difficult to filter. The ratio between the alkali consumption and the oxygen absorption in 2 experiments with 30 per cent caustic soda solution was constant. Simple oxidation products are formed comparatively rapidly. Even with the maximum amount of oxygen absorbed very little chemically changed cellulose is left. The reaction of alkali-cellulose in an atmosphere of nitrogen is different. Indications are that one portion of the cellulose is far more reactive than another.—A. P.-C.

Standard Method for Determining the Viscosity of Cellulose in Cuprammonium Hydroxide. E. K. Carver, E. C. Bingham, H. Bradshaw and C. S. Venable. Ind. Eng. Chem. (Analyt.Edit.) 1, 49-51 (Jan. 15, 1929).—A method is described in detail, which was evolved from the various methods in use in the laboratories carrying out the determination regularly and is suggested for adoption as tentative by the American Chemical Society. The method is given with all the refinements required for the greatest accuracy.

What the X-Ray Tells Us of the Structure of Cellulose. E. A. Hauser. Metallgesellschaft A. G., Frankfurt a/M, Germany Ind. Eng. Chem. 21, 124-125 (Feb. 1929).—A discussion and interpretation of work recently published by Meyer and Mark and by Trillat on cellulose and of analogous work on rubber and other elastic colloids undertaken by the author.—A. P.-C.

Determination of Cellulose and Amount of Chlorine Consumed in Its Isolation. A Short Method. Mark W. Bray, U. S. Forest Products Lab., Madison, Wis. Ind. Eng. Chem. (Analyt. Edit.) 1, 40-43 (Jan. 15, 1929).—A procedure has been devised and is described in detail, incorporating the best features of previously published methods. The method eliminates acid, hot water and alkaline pretreatments of the wood and embodies the alcohol-benzene extraction of Renker, chlorination in a crucible as done by Dore, Sieber and Walter, short chlorination periods according to Ritter, and a measurement of the chlorine gas according to Roe. It consists essentially in extracting a 2-gram sample for 3 to 4 hrs. with a 2:1 benzene: alcohol mixture, passing measured amount of chlorine gas through the sample, measuring both the amount of gas absorbed and the amount of hydrochloric acid formed, washing successively with water, 3 per cent sulphurous acid, water, freshly prepared 2 per cent sodium sulphite, and water, repeating the chlorination and washing treatments until the lignin has been completely removed, and drying to constant weight. The chlorinations can conveniently be carried out in Jena glass crucibles with fritted glass bottom. The advantages claimed for the method are as follows: (1) It combines cellulose isolation and chlorine consumption determination and through uniform chemical action results in higher yields of cellulose. (2) The total chlorine consumed together with that forming hydrochloric acid may be measured at the various stages of the process. (3) Chlorination is carried out under a slight hydrostatic pressure, which increases the speed of the reaction and also insures more

uniform and more complete chlorination than is secured when the sawdust or pulp is chlorinated under suction or in beakers. (4) There is less degradation of the cellulose as shown by the alpha-cellulose content. (5) The work is expedited because the lignin is removed with as great efficiency in the short chlorination period as in the long chlorination period. (6) The yields of cellulose and the chlorine consumed are practically the same regardless of the size of the particles chlorinated (within limits of 40 to 100-mesh size).—A. P.-C.

Estimation of Alpha-Cellulose. Carl G. S. Schwalbe. Forstl. Hochschule, Eberwalde, bei Berlin. Pulp Paper Mag. Can. 26, 1863-1864 (Dec. 27, 1928); 27, 11-13 (Jan. 3). 41-42 (Jan. 10, 1929); Paper Trade J. 88, No. 3, 61-65 (Jan. 17, 1929).—After a critical discussion of the various factors involved in the estimation of alpha-cellulose, results are given of a collaborative comparison of the Jentgen and Bübeck methods of carrying out the determination, and these results are also collated with those obtained in 1925 working on the same cellulose. Wide variations occurred in the results obtained by each method, but were greater in the case of the Jentgen than of the Bübeck method. The same cellulose in the same laboratories gave considerably different results after the lapse of 2 years, indicating that the influence of the personal factor is very great and that the variations result from a gradual drying out of the cellulose. The results obtained in 1927 were lower than those of 1925 in every case. The Bübeck method gave somewhat more consistent results than the Jentgen method, but it is more complicated; and it is recommended that the Jentgen method be set out with exact details as to the working method and brought into line with the already existing procedure carried out in Anglo-Saxon and northern countries of Europe for final discussion to take place at the next International Congress of Applied Chemistry to take place at Stockholm in 1930.—A. P.-C.

Determination of Alpha-Cellulose. George J. Ritter. Ind. Eng. Chem. (Analyt. Edit.) 1, 52-54 (Jan. 15, 1929).—A report of the work of Sub-Committee 2 of the Division of Cellulose Chemistry of the American Chemical Society. After reviewing the literature, the committee drew up two methods which were subjected to collaborative study, following which a third method was evolved and similarly studied, and finally a fourth method. These four methods are described in detail and the results obtained by the 8 collaborators on two samples of cotton and three of sulphite pulp are tabulated. With materials in which it is possible to obtain a uniform sample and with which the maceration offers no extreme difficulties, the co-operating laboratories checked one another closely by method 4; and the committee feels that further modifications of any of the steps in the procedure will not overcome irregularities in the uniformity of the alpha-cellulose determination of certain cellulosic materials occasionally found in the industry. The method is essentially as follows: To a 3-gram sample in a 250-cc. Pyrex beaker add 35 cc. of 17.5 per cent carbonate-free sodium hydroxide (17.5 g. in 100 g. of solution), let stand 5 minutes, macerate for 10 minutes with a short glass rod having a flattened end adding intermittently in 10-cc. portions a total of 40 cc. of sodium hydroxide solution during this interval, let stand 30 min. at 20°C., add 75 cc. of distilled water, filter immediately on a 40-cc. Gooch crucible allowing the cellulose to form its own mat, wash successively with 750 cc. of distilled water, 40 cc. of 10 per cent acetic acid, and then with water till neutral to litmus paper, transfer the residue to a tared weighing bottle, and dry at 105°C. to constant weight.—A. P.-C.

Lignosulphonic Acid Obtained from Spruce Wood by the Action of Sulphurous Acid in the Presence of Ammonia. Charles Dorée and Eustace Cecil Barton-Wright. J. Soc. Chem. Ind. 48, 9T-12T (Jan. 11, 1929).—By the action of sulphurous acid on spruce wood in the presence of quantities of ammonia amounting to 0.1 to 0.5 per cent NH_3 on the liquor present, a lignosulphonic acid $C_{36}H_{44}O_{20}.2H_2SO_3$ is obtained apparently in the form of a monoammonium salt. Its composition thus falls into line with the more carefully investigated lignonsulphonic acids which are usually based on a formula of the order of C_{40}. It differed in this respect from the acid obtained from spruce wood by the action of sulphurous acid alone, which gave a C_{28}-unit formula. The suggestion has, however, been made that this acid is probably a mixture of a mono- and a di-sulphonated derivative of a C_{40} acid. In all their chemical reactions, indeed, there is the closest analogy between the acid C_{28} and the acid described in this article. Purification was effected by a dialysis, conversion into the beta-naphthylamine derivative, and subsequent resolution of this compound with pyridine. The reactions of the acid may be summarized in the dissected formula $C_{28}H_{28}(SO_3H)_3(CH.OH\ (OH)_3(CO)\ OMe)_3$. On oxidation with nitric acid a nitro-compound is obtained containing two carbonyl and two nitro groupings. On reduction with magnesium the nitro-groupings are eliminated and replaced by carbonyl grouping. The analogy of this reaction to those shown by unsaturated terpenes is again emphasized.—A. P.-C.

Color Reactions of Lignin. Fran Podbreznik. Institut du Pin, Bordeaux, France, Pulp Paper Mag. Can. 27, 229-233, 246-248 (Feb. 14, 1929). The author first discusses the function and relative importance of surface absorption and of slow chemical reactions in the production of characteristic colors on treating lignin with various reagents. The two chief practical difficulties in applying these reactions to lignified membranes are (a) those due to uneven coloring of the tissues, and (b) those due to non-uniform density of the material. The author describes the technique which he has devised for carrying out these tests, particularly on wood tissues, in which (a) is eliminated or reduced to a minimum by grinding the material to a powder and incorporating suitable inert, white pigments, and (b) is eliminated or reduced to a minimum by compressing the material. Most of the reactions found in the literature as being given by aromatic amines and phenols (a bibliography of 43 references is given) have been repeated, and in a number of cases the results obtained contradicted published data. The following new characteristic reaction was found: pine sawdust is colored orange by heating very gently with a solution of potassium chlorate and hydrochloric acid. It is shown that the coloring of lignified tissues can be due neither to the methylpentosans nor to other aromatic compounds, such as vanillin, coniferyl alcohol or Czapek's "hadromal." Of a number of aromatic compounds, eugenol gave reactions which, on the whole, most closely resembled those of lignified tissues. As extracted lignin and oxidized lignin give the same reactions as the lignified tissues, the author concludes that they are due mainly to lignin, but that other factors are also probably involved as lignin may undergo partial hydrolysis or depolymerization in carrying out the reactions.—A. P.-C.

Mechanical Pulp

Relation of Pulpstone Grit to Quality of Fiber. Langdon S. Simons and Bernard Bornstein. The Norton Co., Worcester, Mass. Paper Mill 52, No. 8, 100-104 (Feb. 23, 1929); Paper Trade J. 88, No. 10, 50-52 (March 7, 1929). A discussion of the influence of the size of grit of natural sandstone and of Norton artificial pulp stones together with the type of burring on the quality of the fibers produced.—A. P.-C.

Pulp Stone Grit in Mechanical Pulp. Edwin A. Riley. Pejepscot Paper Co., Brunswick, Me. Paper Trade J. 88, No. 8, 171 (Feb. 21, 1929). A brief discussion of the degree of contamination of groundwood by grit from the stones, and of its elimination from pulp required from semi-fine papers. A. P.-C.

Regulator for Wood Grinders. X. Winkler assignor to E. Holtzmann & Co. A.-G. U. S. pat. 1,691,101, Nov. 13, 1928. The adjustment of the regulating means of the wood-feeding devices is effected by means of an electric relay or the like which is controlled by the current of the main grinder motor, the regulating means comprising a liquid-operated switch (e.g., a mercury switch) which is so arranged and constructed that it is under the influence of the induction relay operated by the circuit of the main grinder motor and depending on the load of that circuit. The regulating

device is preferably adapted to provide a wide range of regulation with but a comparatively small displacement of the relay. Owing to the direct dependence of the wood-feeding motor on the load of the main grinder motor, adjustment of the speed of the former with variations in the load on the main circuit takes place very rapidly. Any undesirable excessive or too rapid regulation can easily be avoided providing suitable damping means, such as a damping pump.—A. P.-C.

Utilizing Groundwood Rejections. W. E. Brawn. Pejepscot Paper Co., Brunswick, Me. Paper Mill 52, No. 8, 142-146 (Feb. 23, 1929); Pulp Paper Mag. Can. 27, 353-355 (March 7, 1929); Paper Trade J. 88, No. 11, 63-64 (March 14, 1929). A brief discussion pointing out certain paths of investigation for elimination and greater utilization of ground wood rejections. Tailings utilization eliminates a source of stream pollution, conserves raw materials and tends to extra profits for the mill. The first step in the utilization of tailings is to study the mill operation in detail and keep all forms of rejections down to a minimum. Studies should be made into more efficient methods of handling rejections, both for use in the mill and for shipment to distant points. Further investigation is necessary to find additional uses to which tailings may be put. Various types of groundwood tailings refiners are available, and these are briefly described.—A. P.-C.

Comparison of Grinder Types. Keith Gainer. International Paper Co., Three Rivers, Que. Paper Trade J. 88, No. 8, 169, 171 (Feb. 21, 1929). An itemized comparison is given of the operating cost of continuous-feed magazine grinders, hydraulic grinders and pocket grinders based on average figures obtained over a period of several months. Taking the figures for the continuous-feed grinder as 100%, the total cost per ton, exclusive of wood-preparing cost, for the hydraulic and pocket grinders were 81.64% and 87.30% respectively. The author considers that the great difference in grinding pressure and area is the reason for the higher cost per ton on the chain-feed grinders; figures from a mill using similar grinders, but with slightly larger magazines and consequently increased grinding, showed costs a trifle lower than the ones quoted, but still higher than the pocket or hydraulic types.—A. P.-C.

Alkaline Processes

Removing Silica from Waste Pulp Liquors. Papeteries Navarre. Belg. pat. 349,831, April 30, 1928. The liquor is treated with carbon dioxide and/or sodium bicarbonate at 15°C. The sodium silicate formed is separated and the carbon dioxide is recovered by heating the solution.—A. P.-C.

Treatment of Green Liquor in the Kraft Process. J. S. Bates. U. S. pat. 1,691,511, Nov. 13, 1928. The green liquor obtained from black ash in sulphate liquor recovery is allowed to stand hot for about 6 hours to allow the black, slimy, semi-colloidal, insoluble impurities (mostly iron sulphide) to settle out. The clear liquor is decanted and the alkali remaining in the dregs recovered by washing by decantation. The advantages claimed are: purified green liquor facilities causticizing because the lumps of lime are not coated with slimy iron sulphide; less lime is needed because it is more efficiently and completely utilized; settling of the lime sludge is more rapid and thorough, thereby increasing the capacity of the causticizing plant and simplifying the washing of the sludge; less trouble with batches of over-burned and impure lime; absence of slimy insoluble facilitates the recovery of alkali from the sludge by washing. The purified lime sludge is eminently suitable for use instead of ordinary lime in a milk-of-lime system for making sulphite acid liquor; chemically the reaction is the same as that of limestone in the tower system, and mechanically the suspension is handled in the same way as in the milk-of-lime system. Because of lower initial temperature and lower heat of reaction with sulphur dioxide, as compared with milk of lime, it allows of better absorption of relief gas from the digesters and allows more margin against losses of gas in warm weather; also, plugging of the holes in the tower plates by calcium sulphite is completely eliminated. The sludge is also suitable as high-grade agricultural lime.—A. P.-C.

Investigations on the Treatment of Chemical Wood Pulp with Alkali. Robert Hazard. Russa 3, 1445-1457 (Dec. 1928).—The action of alkali on 9 wood celluloses, differing in origin, process of manufacture, bleaching and degree of beating, was investigated. The material was first dried for 20 hrs. at 80°C. In every case, maximum solubility occurs at a concentration of 3.2 gram-molecules (128 grams) per liter of caustic soda, and is then followed by a slow decrease. The solubility is a function of the swelling which likewise has a maximum at the same alkali concentration. The curves for the effect of the time of soaking in alkali and for the accompanying course of swelling are exactly similar, showing that the time of soaking is also a function of the swelling. Mercerization loss increases directly with temperature, the loss at 100°C. being about double that at ordinary temperature. This increase is not related to the swelling, but is due to hydrolysis and oxidation of the cellulose. Repeated alkali treatments have no further appreciable effect on the loss in weight. An apparatus has been devised for determining the "swelling number" and is described in detail. The swelling power of the hydroxides decreases in the order lithium hydroxide, sodium hydroxide, potassium hydroxide, which is in accordance with the lyotropic series of alkali cations. The change in the "swelling number" with concentration is different and characteristic with each alkali. Maximum swelling is observed with 2.8 gram-molecules of lithium hydroxide, 3.2 gram-molecules of sodium hydroxide and 3.8 gram-molecules of potassium hydroxide per liter. Flattening of the curves occurs between 1.1 and 1.9 gram-molecules and from 3.6 gram-molecules upwards for lithium hydroxide; between 4.5 and 6.8 and from 10.5 gram-molecules upwards for sodium hydroxide; and from 5.4 gram-molecules upwards for potassium hydroxide. The course of swelling in each case runs exactly parallel to the mercerization loss. In the curves for the course of adsorption with increase of alkali concentration, corresponding breaks and flattening occur and are indicative of the following: $(C_6H_{10}O_5)_2.NaOh$, $(C_6H_{10}O_5)_2.KOH$, $(C_6H_{10}O_5)_2.LiOH$, $(C_6H_{10}O_5)_2.2NaOH$, and $(C_6H_{10}O_5)_2.2LiOH$. In all cases, the celluloses which have previously been subjected to the least severe mechanical and chemical processing are the most alkali resistant and exhibit the least swelling.—A. P.-C.

Production of Cellulose. Wollf & Co., Kommandit-Ges. auf Aktien, and R. Weingand. Eng. pat. 288,997, Sept. 20, 1927. After removal of the hemi-celluloses with alkali, the soda cellulose is treated with a solution of a suitable salt, e. g., sodium chloride, or an aliphatic alcohol to remove the bulk of the alkali, and is finally washed with water, whereby an after-formation of hemi-cellulose is avoided.—A. P.-C.

Pulping Process. E. Spencer, U. S. pat. 1,690,954, Nov. 6, 1928. In preparing paper pulp, digesters are charged with cellulosic material such as bamboo, wood, reeds or grasses and digesting liquor such as caustic-sulphide liquor is introduced into one of the digesters to dissolve at least a portion of the soluble substances from the material, the resulting liquor is removed and liquor of greater concentration and at a higher temperature and under greater steam pressure is introduced into the digester and the process is similarly continued in successive stages and by use of the liquor in sequence in a series of digesters on the countercurrent principle.—A. P.-C.

Production of Cellulose from Vegetable Substances. C. A. Braun. Fr. pat. 638,011, July 4, 1927. Cellulose is extracted from vegetable substances by boiling under pressure with liquors containing alkali sulphite, caustic alkali and alkali salts of resins, fatty acids, silicates, borates, aluminates or zincates, with a slight excess of alkali carbonates.—A. P.-C.

Cylic Process for the Production of Kraft Pulp. G. A. Richter assignor to Brown Co. U. S. pat. 1,689,534, Oct. 30, 1928. Wood chips or other raw cellulosic material is digested in a liquor con-

taining sodium sulphide, the pulp is separated from the spent liquor and the latter is concentrated and evaporated and its inorganic content is smelted, and substantially all the sodium and sulphur values are recovered in the form of sublimed solids and sulphur dioxide which are formed in the smelting and are absorbed in alkaline aqueous liquor, for further recovery in the smelting—A. P.-C.

Production of Pulp from Straw, Cornstalks, etc. B. Dorner assignor to Euro-merican Products Corp. Eng. pat. 286,211, Feb. 28, 1927. Chopped and shredded material is sieved to separate material which may serve as fodder for animals, soluble substances are leached out with water, and the material is disintegrated and repeatedly cooked with caustic soda solutions of increasing strength.—A. P.-C.

Straw and the Monosulphite Process. Raymond Fournier. Papeterie 51, 14-18 (Jan. 10, 1928). A brief description and discussion of the Braun process (cooking with sodium monosulphite, caustic soda and sodium salts of weak acids such as sodium borate or preferably silicate). The author considers that, though the process gives a fine pulp, it is questionable whether it is any more economical than or posseses other advantages over the de Vains and similar processes (treatment with dilute caustic soda solution and chlorine water).—A. P.-C.

Process for the Production of Bleachable Semi-Chemical Pulp for the Manufacture of Semi-Fine Papers. Umberto Pomilio and Giulio Consiglio. Fr. pat. 646,154, Dec. 24, 1927. The process consists in a mild treatment with weak alkali solution, mild treatment with chlorine gas (the amounts of alkali and chlorine used being preferably, but not necessarily, in equivalent proportions), washing with an alkaline or saline solution and finally bleaching with hypochlorite.—A. P.-C.

Pulping Process. Vickers, Ltd., and O. D. Lucas. Eng. pat. 298,800, Nov. 29, 1927. After digesting vegetable material with water at 181°C. under pressure for 1 hr., the furfuraldehyde is distilled off, and the residue is treated with caustic soda solution in the usual manner.—A. P.-C.

Process and Apparatus for the Purification of Wood Pulp. Papeteries Navarre. Belg. pat. 349,525, April 30, 1928. Impure cellulose is first subjected to a drastic oxidation treatment, then washed, and finally boiled with alkali; after elimination of the mineral salts, the product has an alpha-cellulose content of 94 to 95%. The purified pulp is thoroughly washed after the alkaline cook by passing it over an inclined screen down which it passes by the action of a series of water sprays.—A. P.-C.

Pulping Process for Straws and Grasses. U. Gennaro and G. Rossi. Eng. pat. 301,226. In the preparation of fibers or cellulose from gramineae or other plants of high silica content, the materials, either whole or comminuted, are heated at a temperature up to 40°C. with a chemical reagent such as caustic soda at a concentration of 3 to 4% to dissolve and remove the silica. They are then washed until the reagent is removed and then subjected to retting by a microbiological or enzymic process such as Rossi's process using aerobic ferments in a current of gas. The material may finally be seasoned by allowing it to stand for the required period. The chemical reagent may be neutralized instead of being washed out of the material.—A. P.-C.

Treating Black Liquors from the Manufacturer of Pulp from Corn or Straw. B. Dorner assignor to Euro-merican Cellulose Products Corp. Eng. pat. 286,210.—Waste liquors resulting from the soda process of making cellulose from maise or other straw, wood, etc., are treated to obtain substances for use as animal foods or for fermentation to produce alcohol by use of carbon dioxide or purified flue gases which are supplied to the liquor until it is no longer alkaline to litmus followed by boiling to effect concentration and precipitation. The liquor may be further treated with carbon dioxide after cooling to effect additional precipitation.—A. P.-C.

Recovering Resinous By-Products in the Manufacture of Wood Pulp. E. H. French. U. S. pat. 1,693,586, Nov. 27, 1928. Rosin is recovered from black liquors obtained in the alkaline treatment of resinous wood by liberating impure rosin from the alkaline liquor by passing an acid gas through the liquor, removing the liberated rosin from the liquor, dissolving the impure rosin in a hydrocarbon solvent, distilling the solution of rosin and solvent under a high vacuum, condensing and separating the rosin from the solvent.—A. P.-C.

The Keebra Process. Linn Bradley and Edward P. McKeefe. Bradley-McKeefe Corp., New York. Paper Trade J. 88, No. 8, 131-133 (Feb. 21, 1929). A brief general discussion of the process (in which wood is pulped with a liquor containing sodium monosulphite as the main chemical constituent) and its various modifications (addition of one or more of the following chemicals: sodium bisulphite, sodium sulphide, sodium hydroxide, sodium thiosulphate, sodium carbonate, sodium bicarbonate, sodium sulphate, sodium chloride).—A. P.-C.

Sulphite Process

Treatment of Sulphite Waste Liquor. E. L. Rinman. French pat. 627, 752, Jan. 17, 1927. The separated liquor is evaporated, and the organic constituents are burnt off with the addition of combustible materials to form sodium sulphide or a mixture of sodium sulphide and carbonate. After conversion of the sodium sulphide into hydroxide by means of metallic oxides, the precipitate of metallic sulphides is separated, and sulphur dioxide is passed into the solution to regenerate sodium sulphite.—A. P.-C.

Treating Sulphite Waste Liquor. British Dyestuffs Corp., Ltd., and A. J. Hailwood. Eng. pat. 286,808, Dec. 21, 1926. Sulphite cellulose pitch is subjected to heating under pressure with ammonia solution and the products obtained may be subjected to alkaline reduction, as by the use of caustic soda and zinc. The products may be used as dispersing agents and protective colloids in making dye pastes which are to be dried to powder form and may be used also as tanning agents.—A. P.-C.

Process of Making Raw Calcium Bisulphite Digesting Liquor. C. A. Richter assignor to Brown Co. U. S. pat. 1,694,231, Dec. 4, 1928. A suspension of finely-divided limestone in water is passed in contact with, and in counter-current flow to, sulphur dioxide, through a confined mass of limestone rock.—A. P.-C.

Preparation of Sulphite Pulp. E. L. Rinman. French pat. 627,884, Jan. 21, 1927. Wood chips are heated at 130° to 140°C. with a solution of sodium bisulphite containing at least 1.2 per cent Na_2O (preferably 2.5 to 6 per cent, depending on the resin content of the wood). The sulphite liquor is made to circulate continuously through another vessel, where the resin is removed by extraction with turpentine oil.—A. P.-C.

Acid-Sulphite-Pulp Process. R. B. Wolf. U. S. pat. 1,699,554, Jan. 22, 1929. In cooking with acid having a high sulphur dioxide content (7 per cent or more), so as to reduce the time of cooking without affecting the quality of the pulp, the recovery of sulphur dioxide at the end of the cook has heretofore required the installation of a large condenser and an acid system, either milk or lime or tower, to absorb the acid gas. According to the present invention the gas relieved during the final portion of the cook, when the pressure is reduced before blowing the charge, is first preferably passed through a separator to remove the entrained fiber and water, the separator being connected to the blow-pit to deliver the separated fiber and water thereto; the gas from the separator passes to a condenser where it flows in counter-current to a stream of water which is regulated so that its temperature on leaving the condenser is about 200°F., and this water also is delivered to the blow-pit; the gas from the condenser is finally sent to an absorber of such capacity that during the period of the final relieving of pressure (generally about 20 minutes or so) a large amount of acid liquor (about 300,000 gals.) containing 7% or more of sulphur dioxide is passed through the absorber so as to effect practically complete absorption of the sulphur dioxide. A cooler may be provided to reduce the temperature of the acid after absorption of the sulphur dioxide, and any unabsorbed gas is sent to the acid system to be absorbed.—A. P.-C.

Section of the

COST DEPARTMENT

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Property Accounting*

By H. B. Grouse[1]

The subject of property accounting has been one of increasing interest during the past few years, particularly as applied to manufacturing industries. It has become more and more evident to the financial executives, as well as to the factory management of such organizations, that it is just as important to carefully account for every item of plant property, in which capital is invested and for which the management is responsible, as it is with respect to the items of merchandise. It is well known among accountants what progress has been made in perfecting the uniformly accepted systems of perpetual inventory control for the latter class of assets and it has followed as a natural consequence that the same underlying principles, under which such systems were established, have been adopted and applied with respect to the capital assets. Whereas formerly it was considered adequate for all practical purposes to charge all purchases of materials or merchandise into one inventory account and to await final inventory at the end of the period to determine the value consumed in operations, such a plan followed out today would be considered to be very crude and inadequate to meet the demands of modern business management. Likewise in the case of property assets, there has been increasing demand by the management for more intimate knowledge with respect to the items representing the plant asset account, as well as the effect of the depreciation of this asset in the cost of current operations.

The fact that the investment in plant property is usually one of the largest items reflected in the balance sheet makes it most essential that adequate supporting records be maintained in sufficient detail to meet the particular requirements. Furthermore, the item of depreciation being, in many instances, the largest single item of expense to be included in the cost of operations, warrants very careful consideration on the part of the management in establishing proper rates for the various classes and types of buildings, machinery and equipment.

Purposes of Detailed Property Records

To begin with, it would perhaps be well to mention the particular purposes of a detailed property record as we considered them prior to the adoption of the system, which may be stated as follows:

First—The need of supporting detail with respect to capital investment accounts.

Second—The basis for more accurate depreciation charges and consequent effect on cost of operation.

Third—A more accurate basis for determining insurable values and for substantiating claims for losses sustained.

Fourth—A more sound basis for tax returns, both income and property.

Points to be Considered Preparatory to Installation of System

While the general plan was being formulated, there were several points to be considered preparatory to the installation of the property accounting system, the most important of which were as follows:

First: It was necesary to organize the personnel who would be directly responsible for the successful operation of the system after it was installed, and we were fortunate in obtaining the services, in almost every location, of an individual qualified to assume the duties of property accountant. In this respect we gave particular attention to the qualifications of the man appointed for this position, as it was considered desirous and necessary, wherever possible, to obtain a man with some practical mechanical training as well as some knowledge of accounts. Another qualification of a successful property accountant is a congenial personality as much depends upon his ability to cooperate with and obtain the goodwill of all those with whom he has to deal. This, of course, applies to all accountants, but I cannot emphasize the importance of this qualification in the property accountant too strongly, as his duties bring him constantly in contact with all departments of the factory organization and particularly with the Mechanical and Maintenance Departments upon which he so largely depends as a source of information with respect to new additions to the property, transfers of machinery and equipment, repairs, etc. He is the contact man between the staff that actually performs the work on the property and the office, and it is his responsibility to see that all money spent on the plant property is properly accounted for and any changes affecting the physical condition of the plant are duly reported. It is obvious that this necessitates his spending most of his time in and about the plant premises keeping constantly in touch, by personal observation, with all work being done of this nature, and the results obtained are largely dependent upon the conduct and tact of the property accountant.

Second—It was necessary to enlist the support and sympathy of the local factory organizations by laying before them the proposed plan, the purposes thereof and the results desired. This was done by holding local meetings and discussing the various points with the individuals directly involved in this work. In this manner the particular problems at each location were discussed, and by holding further group meetings among members of the various plants, standardization of procedure was accomplished.

Third—It was necessary to establish the primary records for the compilation of costs by installing immediately a plant order record system whereby all expenditures affecting the plant asset account

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[1] U. S. Rubber Co., New York

by way of new additions, renewals or replacements, might be recorded through the medium of duly authorized plant orders and all transfers and removals of machinery or equipment items covered by plant transfer orders. All expense jobs for account of the plant property, such as for repairs and maintenance work, dismantling of equipment, or demolition of buildings, are done on shop orders.

Fourth—It was necessary to decide upon and design a standard numerical unit classification of plant. This was, of course, very important, as, prior to its final adoption, we had to consider to what extent it was practicable to segregate the various plant items.

The entire plant was first classified into three general groups, namely land, buildings, and machinery and equipment. The land group required no further subdivision. The buildings group includes all buildings and other construction items and is subdivided, each building being assigned a number from 1 to 90. The machinery and equipment group was subdivided by departments, each department being numbered from 100 and up. Within the foregoing limits, therefore, our decimal classification enables us to number each building consecutively within the limits 1 to 90 and the miscellaneous construction items from 91 to 99, and with respect to machinery and equipment, the manufacturing departments are assigned department numbers ranging from 100 to 148 and the service of miscellaneous departments are assigned department numbers ranging from 149 up.

Each building and each department are further subdivided into individual units of construction or machinery and equipment, and decimal sub-numbers assigned to each unit; for example, each building is subdivided as follows:—.01 Excavation, .02 Foundation, .04 Masonry, .07 Iron Construction, .08 Wood Construction, .11 Windows and Doors, .12 Sheet Metal Work, .13 Roofing, etc. The complete unit number assigned to each of these subdivisions would be, for example, 4.08, as representing Wood Construction in Building No. 4.

With respect to the unit classification of machinery and equipment, as indicated above, a department number is assigned to each department and in the case of manufacturing departments this is done in the order of manufacturing processes as nearly as possible. Subdivisions are assigned in each department from .01 up, an individual number being assigned to each specific machine or equipment unit contained therein. By way of further illustration, the unit number which might be assigned to a mill would be 101.04, as indicating unit No. 4 in the millroom.

With respect to certain classes of equipment, it was not practicable to assign an individual unit number to each item, as, for example, cranes and hoists, lasts and molds, permanent tools, foundry patterns, furniture and fixtures, plans, tracings and drawings, tanks, kettles and vats, etc. Such items, therefore, are classified into these respective groups by departments and to each group is assigned a three digit sub-unit number; for example, all cranes and hoists in the millroom would be designated by the unit number 101.001.

Appraisal

Having made the foregoing preparations, we were ready for setting up the property records and, as in most cases of this kind, it was necessary to have an appraisal made of all of our plant properties as a basis. This appraisal was made primarily for accounting purposes and consequently the appraisers were instructed to inventory the properties in accordance with the standard classification of plant, heretofore, briefly described, and as each unit was inventoried, tags were affixed to the respective items of machinery, and equipment to indicate the unit number assigned thereto; also new building numbers were assigned to the respective buildings in accordance with the classification and painted over the doorways for permanent identification. The appraisal of each plant, when completed therefore, constituted a detailed descriptive inventory by unit classification and was prepared in such a manner that it could be maintained up to date by the insertion of additional descriptive sheets for all new additions and proper records made therein for transfers and items dismantled, scrapped or otherwise disposed of.

Records

As the appraisal for each plant was completed, a card ledger record was set up, using a separate ledger card for each unit and a summary control card for each building and department. A loose leaf ledger was simultaneously established for setting up the control accounts under the three main groups, Land, Buildings, Machinery and Equipment. Each card ledger account constitutes a perpetual inventory record as to cost values and amount accrued for depreciation, and indicates, in addition to the unit number and title, the location, annual rate of depreciation, and insurable value.

It might be well to state here that this ledger record represents only property items completely installed or constructed and is subsidiary to and under the control of the Property Account in the General Ledger. The costs of all construction work in process and installation of machinery and equipment during the course of installation, are carried under the control of a special account in the General Ledger known as "Construction in Process," which is supported in detail at all times by individual plant order records, previously referred to, showing the cost to date as applied to incompleted plant orders.

Reports

Having set up the detailed property ledger on the basis of the appraisal, the following reports were instituted as posting mediums to record the subsequent changes by way of additions, deductions, and transfers affecting the property account.

1—Summary of Completed Plant Orders—A monthly report covering all plant orders closed out during the month, upon which work has been completed. Postings are made from this form to the respective unit ledger cards as new additions, replacements or renewals, and the necessary summary entry made for the general ledger accounts, charging the Property Account and crediting Construction in Process Account.

2—Summary of Completed Plant Transfer Orders—Covering all transfers or removals of machinery and equipment completed during the month.

In conjunction with the posting of the changes in the property account to the respective ledger cards, the appraisal or descriptive record is changed simultaneously to conform thereto. In the case of new additions, a separate detail description for each new unit is prepared and submitted with the monthly Summary of Completed Plant Orders, giving the write-up of each new machine or equipment unit installed, in the same manner as furnished by the appraisal. In the case of transfers, a new descriptive sheet is prepared and inserted in the appraisal volume under the new unit classification and an offsetting record of the transfer is noted as a deduction on the old unit descriptive sheet. Also, in the case of plant units removed by sale or otherwise, notation is made to that effect in the appraisal record.

Checking of Records

As in the case of any perpetual inventory record, these property accounts are subject to a selective check from time to time by actual physical check-up of all plant units to verify the correctness of the records. In addition to the current checking which is done by the property accountant, during his daily trips through the plant, an independent audit and check-up is made periodically by the appraisal engineers who report to the home office.

Depreciation

The unit ledger record furnishes an excellent basis for the calculation of the accrued depreciation. This is figured on an annual rate by the application of the straight line method, the rates being predetermined by the appraisal engineers, in conjunction with the local factory managers, for each type of construction, ma-

chinery or equipment from their knowledge of the estimated life of the various plant items employed in the rubber trade. The standard rates having been applied to the plant valuations as at the beginning of each year, the amount chargeable to operations for the ensuing period is determined. This amount is set up by the home office by crediting the Reserve for Depreciation Account and charging the respective operating plants, on a monthly basis, with their proper portion to be absorbed in cost of production. The amount of depreciation accrued on each unit annually is recorded in space provided on the ledger card, the total postings of which constitute the total amount credited to the Reserve Account in the General Ledger.

The numerical unit classification, previously referred to, greatly facilitates the departmental distribution of the depreciation charge for cost purposes, as, in building up the annual accrual by units, the unit number in each instance indicates the department in which the unit is located. Departmental summaries therefore are readily obtained from the summary control cards and thus we are able to furnish the plants with the proper distribution of the charge rendered.

Authorization of Plant Expenditures

In conjunction with the operation of our detailed property records, an appropriation system of plant expenditures was adopted which requires that no expenditures are to be made for account of plant except under duly approved authorizations for all jobs estimated to cost $500.00 or more, whether for additions or replacements to property and plant or for repairs and maintenance, demolitions, transfers, or experimental and development projects. Before any work of the foregoing class can be started, a request form for plant expenditures must be prepared and submitted for approval of the chief executive in charge of manufacturing. These requests must give an outline of the work proposed, the estimated cost to complete the project, the reason for the expenditure and the savings or results anticipated. With respect to minor projects, involving additions or replacements to property and plant, each of which is estimated to cost less than $500.00, a monthly request form is prepared listing all of these projects upon which work was started during the month. Pre-authorization of these minor projects is not required, as they are mostly of emergency nature. In the case of expenditures on plant for minor projects costing less than $500.00 for any completed job, but which are chargeable to Expense or Income, no request for authority is required.

Requests for Expenditure

Requests for expenditure when duly approved constitute authorities for proceeding with the work and the factory is so advised with respect to each one as and when approved. These authorities are registered in the home office and posted to an authorization ledger which provides for the classification of the estimated amount to be expended as between capital charges and expense charges. In order to account properly for the expenditures actually made against the respective authorizations, two statistical reports are submitted by each factory to the home office monthly, as follows:

1—Report of Capital Expenditures in Process—This report constitutes an analysis of the Construction in Process Account previously referred to by Plant Orders and by Authorities, and indicates with respect to each the expenditures made during the month and to date. Postings are made each month from this report to the Authorization Ledger under "Capital Charges."

Report of Property Expenses—This report summarizes all expenditures in connection with property made during the month and which are chargeable to Expense or Income. Such expenditures are reported by authority number in numerical sequence, showing the total amount applicable to each authority for convenience in posting to the Authorization Ledger. Expenditures on account of minor expense projects of less than $500.00 each are reported in total and posted against a standing authority account in the Authorization Ledger, but as previously indicated, there is no estimated provision set up for such items.

The authorization Ledger as of the close of each month shows the status to date with respect to each authority and furnishes a basis for monthly statistical reports to the executives as to all expenditures on account of the property and the effect of such expenditures on the property account. It also serves as a medium for controlling the expenditures made as against the amounts authorized. Expenditures are not permitted to exceed the amounts authorized except upon further approval and for which formal requests are necessary, giving revised estimates.

Results Obtained—From the book records we are able to ascertain the current status of the property account in as much detail as we require. We have used these records in establishing our insurable values for our plant properties and they enable us to revise these values from time to time when necessary, due to additions to plant and removals therefrom, and changes in present day reproductive costs. They have been very helpful in connection with settlement of fire loss claims. We are able to prepare from our property records each month an analysis of the property account by divisions and by individual factories, showing the gross book value, the balance in reserve for depreciation and the net book value, together with an analysis of increases and decreases for the period.

From the plant authorization records, we are able to budget all plant expenditures as well as to prepare monthly statistical reports, showing actual expenditures against the respective authorizations, both in condensed summary form by divisions and factories as well as by individual projects, also the effect of such expenditures as to capital investment and operating expense.

Results Very Satisfactory

In conclusion it can be said that the operation of our property records as a practical accounting matter has proved very satisfactory. While it may be considered impracticable for some organizations, on account of differing methods of operation, I believe the same principles may be applied by any manufacturing concern and the advantages to be derived therefrom are innumerable.

Wisconsin Cost Men To Meet

A meeting of the Wisconsin Division of the Cost Department of the American Paper and Pulp Association will be held at Essex Lodge, Tomahawk, Wis., on Saturday, June 28. A program committee consisting of A. F. Kletzien, F. W. Jallings and Walter Howard was appointed at the last meeting of the Division, to draw up a program for the meeting.

Harry Deyo, of the Nekoosa-Edwards Paper Company, Port Edwards, Wis., was elected president of the Wisconsin Division for the forthcoming year, and Miss I. M. Carney was again elected secretary of the Division.

Those desiring to attend the meeting on June 28 should send their reservations to Miss I. M. Carney, Tomahawk Kraft Paper Company, Tomahawk, Wis., so that suitable reservations may be made at Essex Lodge.

Judging from the success of the meeting held last year, at the same time and place, a most instructive and enjoyable meeting will be arranged, and the secretary will welcome reservations from representatives of all mills, both member and non-member.

Pulpwood for the Island Paper Co.

[FROM OUR REGULAR CORRESPONDENT]

Antwerp, N. Y., May 5, 1930.—Great activity is in progress along the Indian River in this section where a log drive destined to reach the Carthage plant of the Island Paper Company is now under way. A large supply of timber has been cut from a tract near here and it is being floated to a village south of here where it will be transported to a number of freight cars and then shipped to the paper mills. About 19,000 cords of pulpwood comprise the shipment, which is the largest shipped from here in several years.

Cost Section

The Paper Industry in Nova Scotia

The year 1929 has been for Nova Scotia a period of fulfilment and evident accomplishment with the outstanding result the completion of the Mersey Paper Company's Mill at Liverpool, says Ralph P. Bell, the well known pulpwood authority.

It is particularly fitting that Nova Scotia should, at last, have a paper mill for at an early date the province was significantly associated with the development of papermaking. Not only was there a mill in Halifax County, as early as 1819 when A. H. Holland, proprietor of the *Acadian Recorder*, made news print for this paper on the stream near the opening of Hammonds Plains road, at the Head of Bedford Basin; but in 1844, the same year that Frederick Gottlob Keller patented his wood-pulp grinding machine in Germany, a Nova Scotian successfully produced a sheet of paper from spruce wood, the outcome of the experiments he had carried on from 1839. This is the first time we hear of paper being produced from spruce on the North American continent.

Today, there is a tablet erected at Upper Sackville, the scene of the experiment, to Charles Fenerty, the young Nova Scotian farmer-scientist, who made it. The experiment itself is recorded in a letter sent by Fenerty, with a sample of the paper produced, to English and Blackadar, proprietors of the *Acadian Recorder*. The letter expresses the feasibility of commercially producing paper from wood.

It is interesting to note that the species Fenerty suggests as the most suitable are spruce, fir and poplar—the three chief paper-making woods of today.

This early experimenting in paper making with no subsequent paper mill has been unfortunately, indicative of many industries in Nova Scotia, and it is generally hoped that the activity of the last year marks the beginning of a new era of substantial and continuous development.

Another sign of Nova Scotia's new prosperity is the successful operation of the Minas Basin Pulp and Paper Company during the past year. This mill was also a new development for the province, being run by electric current instead of water power, as were the ground wood mills less recently constructed. Its location on the estuary of the Avon River at the Head of Minas Basin is also distinctive and places it on a different basis from mills located at the mouth of some one river where they must depend largely on wood produced within their own watershed and driven down the stream.

This undertaking is the product of the vision and ability of two outstanding Nova Scotians. It owes its inception to R. A. Jodrey, of Wolfville, one of the most active and progressive men of the province. The construction of the plant was the work of the late Charles Wright, also of Wolfville, a fine type of citizen of sterling character and high ability, whose tragic death last summer in one of the worst level crossing accidents that has ever occurred in the province, was an inestimable loss to Nova Scotia.

Messrs. Jodrey and Wright have contributed largely to the development of industry in the province. The Minas Basin Pulp and Paper Company not being, by any means, their initial venture, but rather the product of their experience and success.

These developments have materially assisted the pulpwood industry in Nova Scotia, which has expanded considerably during 1929.

And it is to pulpwood that we now must look for an increasingly profitable outlet of the products of our forests, for pulpwood appears destined to replace our dying lumber industry regarding the decline of which we hear the expression of so much regret, unfortunately too often accompanied by an unreasonable resentment towards the newer industry.

In this regard it is well to remember that the conservatism which is opposed to change as such has caused many people to oppose innovations which had progress written on the face of them.

Those inclined to irrevocably make up their minds that the thing of the past is the ideal thing, should face the fact that the absolute ideal is only possible in an ideal world. The imperfect conditions under which it must exist in actual life take from it much of its theoretical perfection. In actual practice the nearest approach to the ideal we can generally make is the adoption of the best and most practical thing, under existing conditions, at a given time.

The pulpwood industry, however, should not be regarded as something forced upon us because of our lost trade in lumber, for to all who look into the question with an unbiased mind, it will be apparent that an operation for pulpwood is decidedly nearer the ideal, than an operation for lumber. From the standpoint of a conservation designed to place the forests of the province on a sustained yield basis a pulpwood operation is preferable, not only because a greater percentage of the tree can be turned into merchantable product than is the case with lumber—which incidentally means less waste and slash left in the woods to become a fire hazard—but also because a stand designed for use as pulpwood has a quicker crop rotation, hence more immediate returns to the operator, an important incentive to the practice of forestry.

The actual monetary yield to the individual is approximately the same from a quantity of lumber and pulpwood produced from the same stand of trees. To the country in the form of freight return, the yield from pulpwood is twice as great.

The announcement of the Federal Government during the year to the effect that an inventory of the Dominion's Forest Resources would be taken is highly significant. Such an investigation is a sound foundation for the inauguration of scientific forestry and a necessity for the formulating of any valuable system.

This is one of the most progressive steps Canada has taken in regard to her forests and is evidence of a new and enlightened outlook in the Dominion as a whole, an outlook calculated to safeguard the future.

The greatest constant menace to our forest industries is fire, which has always presented a special problem to this continent, where forests are on such heroic scale. Nova Scotia, however, on account of the humidity continually present in the atmosphere, has been more fortunate than most of the other provinces. The high fire hazard of last summer, therefore, came as something of a surprise.

Canadians as a people have shown themselves to be unusually reasonable and public spirited in matters concerning the national welfare and there are two things in particular which will always reflect great credit upon them, namely, the way in which the general public responded to the appeal to protect the forests from fire immediately the facts were put before them, and the amicable manner in which the news print manufacturers arrived at an agreement last year when the industry was facing a crisis.

A country composed of business men and a general public of a caliber measured by these things seems destined to develop along enlightened lines in the least possible time, and our forests have a strong ally in such a human element. It would, therefore, seem that the people who are using up our paper to predict the ultimate ruin of our forests and to bemoan its inevitability would spend their time far more profitably in suggesting constructive methods of forestry for this country where leaders and citizens generally have proved themselves so ready to adopt policies calculated to build up a prosperous and progressive nation.

Our ancestors have been a race of builders, let us be true to their tradition in building up a sound system which will insure our children their forest heritage for all time.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING MAY 3, 1930

SUMMARY

Cigarette paper .....1348 cs.
Wall paper .....21 bls., 17 cs.
Paper hangings .....37 bls., 12 cs.
Painted paper .....3 cs.
News print .....1978 rolls
Printing paper .....44 rolls, 34 cs.
Wrapping paper .....4 cs.
Drawing paper .....7 rolls, 39 cs.
Filter paper .....56 bls., 9 cs.
Writing paper .....10 cs.
Decalcomania paper .....56 cs.
Metal paper .....8 cs.
Surface coated paper .....12 cs.
Gold coated paper .....3 cs.
Metal foiled paper .....6 cs.
Aluminum paper .....19 cs.
Coated paper .....4 cs.
Colored paper .....57 cs.
Tissue paper .....39 cs.
Caoutchouc paper .....16 cs.
Transfer paper .....14 cs.
Stencil paper .....58 cs.
Filter masse .....20 bls.
Miscellaneous paper .....191 cs.

CIGARETTE PAPER

Standard Products Corp., Paris, Havre, 60 cs.
Gluckman & Strauch, Paris, Havre, 5 cs.
American Tobacco Co., Indep. Hall, Bordeaux, 400 cs.
De Manduit Paper Corp., Indep. Hall, St. Nazaire, 726 cs.
P. J. Schweitzer, Pr. Fillmore, Marseilles, 157 cs.

WALL PAPER

J. E. Bernard & Co., Pr. Roosevelt, Hamburg, 11 bls.
Irving Trust Co., A. Ballin, Hamburg, 10 cs.
F. J. Emmerich, A. Ballin, Hamburg, 2 bls., 1 cs.
Phoenix Shipping Co., A. Ballin, Hamburg, 1 ble., 1 cs.
Schmidt & Pritchard, Dresden, Bremen, 3 bls.
G. J. Hunken Co., Dresden, Bremen, 2 bls.
Kensington Wallpaper Co., American Merchant, London, 2 bls.
R. F. Downing & Co., Homeric, Southampton, 5 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., Lancastria, Southampton, 28 bls., 7 cs.
W. H. S. Lloyd & Co., Laconia, Liverpool, 9 bls.
A. C. Dodman, Jr., Inc., Laconia, Liverpool, 5 cs.

PAINTED PAPER

F. J. Emmerich, Paris, Havre, 3 cs.

NEWS PRINT

Parsons & Whittemore, Inc., Argosy, Kotka, 162 rolls.
———, Argosy, Kotka, 354 rolls.
———, Stavangerfjord, Oslo, 96 rolls.
Perkins, Goodwin & Co., A. Ballin, Hamburg, 51 rolls.
Scripps Howard Supply Co., Gripsholm, Gothenburg, 264 rolls.
Parsons & Whittemore, Inc., Dresden, Bremen, 767 rolls.
Parsons & Whittemore, Inc., Hannover, Bremen, 284 rolls.

PRINTING PAPER

Keuffel & Esser Co., Pr. Roosevelt, Hamburg, 44 rolls.
E. Dietzgen & Co., A. Ballin, Hamburg, 25 cs.
Dingelstedt & Co., Dresden, Bremen, 2 cs.
P. C. Zuhlke, Dresden, Bremen, 2 cs.
Japan Paper Co., Rotterdam, Rotterdam, 5 cs.

WRAPPING PAPER

R. U. Delaphena & Co., Baltic, Liverpool, 4 cs.

DRAWING PAPER

Keuffel & Esser Co., Pr. Roosevelt, Hamburg, 35 cs., 7 rolls.
J. Henschel & Co., Pr. Roosevelt, Hamburg, 2 cs.
H. Reeve Angel & Co., Inc., Minnekahda, London, 2 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Minnekahda, London, 9 cs.
E. Fougera & Co., Homeric, Southampton, 56 bls.

WRITING PAPER

Globe Shipping Co., A. Ballin, Hamburg, 1 cs.
Guibout Freres, Paris, Havre, 9 cs.

DECALCOMANIA PAPER

C. W. Sellers, Pr. Roosevelt, Hamburg, 9 cs.
Phoenix Shipping Co., Pr. Roosevelt, Hamburg, 2 cs.
Phoenix Shipping Co., A. Ballin, Hamburg, 2 cs.
C. W. Sellers, A. Ballin, Hamburg, 6 cs.
B. F. Drakenfeld & Co., Baltic, Liverpool, 35 cs. (duplex); 2 cs. (simplex.)

METAL PAPER

Hensel Bruckman & Lorbacher, Pr. Roosevelt, Hamburg, 8 cs.

SURFACE COATED PAPER

Quality Art Novelty Co., A. Ballin, Hamburg, 2 cs.
Phoenix Shipping Co., A. Ballin, Hamburg, 2 cs.
P. C. Zuhlke, Dresden, Bremen, 8 cs.

GOLD COATED PAPER

F. Murray Hill Co., Dresden, Bremen, 3 cs.

METAL FOILED PAPER

Yokohama Specie Bank, Kuma Maru, Kobe, 6 cs

ALUMINUM PAPER

H. D. Catty & Co., Dresden, Bremen, 19 cs.

COATED PAPER

Pacific National Bank, A. Ballin, Hamburg, 4 cs.

COLORED PAPER

E. Dietzgen & Co., A. Ballin, Hamburg, 43 cs.
S. Gilbert, Dresden, Bremen, 14 cs.

TISSUE PAPER

F. C. Stryne, Argosy, Helsingfors, 32 cs.
D. C. Andrews & Co., Laconia, Liverpool, 3 cs.
Yokohama Specie Bank, Kuma Maru, Kobe, 4 cs.

CAOUTCHOUC PAPER

American Express Co., A. Ballin, Hamburg, 16 cs.

TRANSFER PAPER

F. L. Kramer & Co., Bremen, Bremen, 14 cs.

STENCIL PAPER

Arlac Dry Stencil Co., A. Ballin, Hamburg, 55 cs.
Int'l. Forwarding Co., A. Ballin, Hamburg, 3 cs.

FILTER MASSE

A. Giese & Son, A. Ballin, Hamburg, 20 bls.

MISCELLANEOUS PAPER

Japan Paper Co., Augustus, Genoa, 58 cs.
Graphic Duplicator Co., Pr. Roosevelt, Hamburg, 1 cs.
Continental Typefounders Assn., A. Ballin, Hamburg, 1 cs.
J. W. Hampton, Jr., Co., A. Ballin, Hamburg, 5 cs.
M. M. Cohen, Gripsholm, Gothenburg, 24 rolls, 29 bls.
The Borregaard Co., Inc., Gripsholm, Gothenburg, 120 rolls.
Watch Tower Bible & Tract Society, Cleveland, Hamburg, 1 cs.
International F'd'g. Co., Dresden, Bremen, 10 cs.
Heemsoth Basse & Co., Rotterdam, Rotterdam, 61 bls.
S. Bienfang, Inc., Rotterdam, Rotterdam, 23 cs.
N. Y. Paper Co., Rotterdam, Roterdam, 5 cs.
J. Beckhard & Co., Rotterdam, Rotterdam, 28 cs.
F. B. Vandegrift & Co., Paris, Havre, 1 cs.
Globe Shipping Co., Paris, Havre, 1 cs.
R. F. Downing & Co., Paris, Havre, 4 cs.
Japan Paper Co., Paris, Harve, 1 cs.
British American Tobacco Co., Paris, Havre, 3 cs.
Coenca Morrison Co., Paris, Havre, 13 cs.
Keller Dorian Paper Co., Paris, Havre, 8 cs.
T. N. Fairbanks, Homeric, Southampton, 3 cs.
Whitfield Paper Works, Tokiwa Maru, Kobe, 8 cs.
Y. Yabuki, Tokiwa Maru, Kobe, 3 cs.
F. C. Strype, Tokiwa Maru, Yokohama, 14 cs.

RAGS, BAGGINGS, ETC.

National City Bank, Gerolstein, Antwerp, 30 bls. threads.
———, Gerolstein, Antwerp, 61 bls. rags.
Collins Manfg. Co., Sacandaga, Rotterdam, 10 bls. rags.
E. Mayer, Isarco, Genoa, 81 bls. paper stock.
Equitable Trust Co., Sinaia, Marseilles, 198 bls. paper paste.
Equitable Trust Co., Evanger, Genoa, 63 bls. flax waste.
A. W. Fenton, Inc., Pr. Roosevelt, Hamburg, 54 bls. rags.
A. W. Fenton, Inc., Sarcoxie, Havre, 22 bls. rags.
V. Galaup, Sarcoxie, Havre, 11 bls. rags.
V. Galaup, Sarcoxie, Dunkirk, 27 bls. rags.
E. Butterworth & Co., Inc., Balsam, Dublin, 46 bls. rags.
———, A. Ballin, Hamburg, 19 bls. rags.
Dominion Bank, A. Ballin, Hamburg, 29 bls. rags.
Manufacturers Trust Co., A. Ballin, Hamburg 67 bls. rags.
C. R. Spence, Exeter City, Bristol, 100 bls. rags.
———, Excello, Constantinople, 53 bls. rags.
Fidelity Trust Co., Excello Bari, 16 bls. rags.
American Express Co., Baltic, Liverpool, 58 bls. rags.
A. W. Fenton, Inc., Cleveland, Hamburg, 25 bls. rags.
Van Oppen & Co., Dresden, Bremen, 15 bls. rags.
Brown Bros. & Co., Caledonia, Glasgow, 118 bls. bagging.
C. R. Spence, Caledonia, Glasgow, 65 bls. rags.
Baring Bros. & Co., Caledonia, Glasgow, 62 bls. paper stock.
T. D. Downing & Co., Caledonia, Glasgow, 56 bls. paper stock.
1st Natl. Bank of Boston, Caledonia, Glasgow, 24 bls. paper stock.
Castle & Overton, Inc., Rotterdam, Rotterdam, 557 bls. bagging.
J. Cohen Son & Co., Inc., Lancastria, Southampton, 15 bls. paper stock.
———, Hannover, Bremen, 33 bls. rags.
J. Cohen Son & Co., Inc., Laconia, Liverpool, 15 bls. paper stock.
Royal Manfg. Co., West Eldara, Antwerp, 85 bls. cotton waste.
Castle & Overton, Inc., West Eldara, Antwerp, 69 bls. rags.
Draper & Co., West Eldara, Antwerp, 21 bls. rags.
H. W. Kendal, West Eldara, Antwerp, 6 bls. rags.
E. Mayer, Kelso, Newcastle, 49 bls. bagging.
G. W. Millar & Co., Kelso, Antwerp, 97 bls. flax thread waste.
Castle & Overton, Inc., Kelso, Antwerp, 193 bls. flax waste.
Brown Bros. & Co., Kelso, Antwerp, 1063 bls. rags.
E. J. Keller Co., Inc., Kelso, ———, 113 bls. flax waste.
E. J. Keller Co., Inc., Kelso, ———, 36 bls. linens.
F. Stern, Ohio Maru, Hamburg, 261 bls. rags.
G. W. Millar & Co., Ohio Maru, Hamburg, 141 bls. rags.
A. W. Fenton, Inc., Indep. Hall, Bordeaux, 102 bls. rags.

(Continued on Page 72)

Imports of Paper and Paper Stock

(Continued from Page 71)

H. G. Lishtenstein, Indep. Hall, Bordeaux, 137 bls. rags.
E. J. Keller Co., Inc., Indep. Hall, ———, 107 bls. rags.
E. J. Keller Co., Inc., Indep. Hall, ———, 68 bls. rags.

OLD ROPE

Brown Bros. & Co., Sarcoxie, Havre, 144 rolls.
Brown Bros. & Co., Stavangerfjord, Oslo, 40 coils.
Brown Bros. & Co., Cleveland, Hamburg, 80 coils.
Brown Bros. & Co., Rotterdam, Rotterdam, 79 coils.
Brown Bros. & Co., Gourko, Hull, 35 bls., 8 coils.
Brown Bros. & Co., Bellhaven, Cardiff, 52 coils.
Brown Bros. & Co., Kelso, Newcastle, 213 coils.

CASEIN

Kalbfleisch Corp., Vandyck, B. Ayres, 1234 bags.
A. Hurst & Co., Vandyck, B. Ayres, 417 bags.
2nd Natl. Bank of Boston, Northern Prince, B. Ayres, 985 bags, 55494 kilos.
1st Natl. Bank of Boston, Northern Prince, B. Ayres, 1667 bags, 100020 kilos.
Kalbfleisch Corp., Northern Prince, B. Ayres, 1334 bags, 176456 kilos.
Atterbury Bros., Inc., Northern Prince, B. Ayres, 3338 bags, 201617 kilos.

WOOD PULP BOARDS

Lagerloef Trading Co., Argosy, Kotka, 36 rolls, 200 bls.

WOOD FLOUR

———, Sacandaga, Rotterdam, 300 bags, 10000 kilos.
The Burnet Co., Gripsholm, Gothenberg, 339 bags.
The Burnet Co., Rotterdam, Rotterdam, 400 bags.
State Chemical Co., Rotterdam, Rotterdam, 500 bags.
A. Kramer & Co., Rotterdam, Rotterdam, 300 bags.

WOOD PULP

M. Gottesman & Co., Inc., Sacandaga, Rotterdam, 1000 bls. wood pulp, 10v tons.
Aterbury Bros., Inc., Stavangerfjord, Oslo, 1500 bls. wood pulp.
E. M. Sergeant & Co., Stavangerfjord, Oslo, 150 bls. wood pulp.
———, Argosy, Kotka, 640 bls. sulphate.
M. Gottesman & Co., Inc., Argosy, Stockholm, 900 bls. sulphite, 152 tons.
Castle & Overton, Inc., A. Ballin, Hamburg, 1144 bls. wood pulp, 171 tons.
Johanson Wales & Sparre, Inc., Gripsholm, Gothenburg, 449 bls. dry soda pulp.
———, Cleveland, Hamburg, 390 bls. wood pulp, 76 tons.
Castle & Overton, Inc., Cleveland, Hamburg, 554 bls. wood pulp, 83 tons.
Irving Trust Co., Dresden, Bremen, 480 bls. wood pulp.
National City Bank, Hannover, Bremen, 305 bls. wood pulp.
Perkins, Goodwin & Co., Malaren, Sundsvall, 1300 bls. sulphite; 500 bls. sulphate.
Scandinavian Pulp Agency, Inc., Malaren, Sundsvall, 250 bls. sulphite.
Johnanson Wales & Sparre, Inc., Malaren, Sundsvall, 1125 bls. sulphite.
J. Andersen & Co., Ohio Maru, Hamburg, 303 bls. sulphite, 60 tons.

BOSTON IMPORTS

WEEK ENDING MAY 3, 1930

Oxford University Press, Laconia, Liverpool, 5 cs. printing paper.
F. S. Webster, Laconia, Liverpool, 15 cs. carbonizing tissue paper.
G. F. Malcolm, Laconia, Liverpool, 19 cs. carbonizing tissue paper.
Int'l Purchasing Co., West Eldara, Antwerp, 35 bls. bagging.
E. Butterworth & Co., Inc., West Eldara, Antwerp, 111 bls. flaxwaste.
Katzenstein & Keene, Inc., West Eldara, Antwerp, 41 bls. rags.
T. D. Downing & Co., West Eldara, Antwerp, 27 bls. rags.
French Worsted Co., West Eldara, Antwerp, 7 cs. paper tubes.
Bulkley Dunton & Co., West Eldara, ———, 675 bls. wood pulp, 135 tons.

BALTIMORE IMPORTS

WEEK ENDING MAY 3, 1930

S. Shapiro & Son, Sarcoxie, Dunkirk, 247 bls. rags.
A. H. Searle, Bellhaven, Cardiff, 99 bls. rags.
Johanson Wales & Sparre, Inc., Malaren, Sundsvall, 3010 bls. sulphite.
Scandinavian Pulp Agency, Inc., Malaren, Sundsvall, 750 bls. wood pulp.
M. Gottesman & Co., Inc., Malaren, Sundsvall, 12111 bls. sulphite.
Perkins Goodwin & Co., Malaren, Sundsvall, 2075 bls. sulphite.
Bulkley Dunton & Co., Malaren, ———, 1650 bls. wood bulp.
Congoleum Nairn Co., Indep. Hall, Bordeaux, 1303 bls. rags.
Congoleum Nairn Co., Indep. Hall, St. Nazaire, 308 bls. rags.
Bulkley Dunton & Co., Delaware, ———, 400 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING MAY 3, 1930

Gilman Paper Co., Argosy, Stockholm, 705 rolls news print.
Lagerloef Trading Co., Argosy, Kotka, 256 rolls wood pulp boards, 31 tons.
———, Argosy, Kotka, 7149 bls. sulphite, 1329 tons.
———, Argosy, Kotka, 2250 bls. sulphate, 375 tons.
J. A. Steer & Co., Exeter City, Bristol, 252 bls. rags.
Robert Blank, Exeter City, Bristol, 93 bls. rags.
Equitable Trust Co., Explorer, Novorossisk, 1548 bls. rags.
Fidelity Trust Co., Excello, Bari, 61 bls. rags.
A. Murphy & Co., Hannover, Hamburg, 6 cs. colored paper.
Johanson Wales & Sparre, Inc., Hannover, Hamburg, 200 bls. wood pulp.
International Trust Co., Hannover, Hamburg, 343 bls. wood pulp.
E. Mayer, Hannover, Bremen, 103 bls. rags.
Castle & Overton, Inc., Hannover, Bremen, 43 bls. rags.
Int'l. Acceptance Bank, Hannover, Bremen, 44 bls. rags.
Corn Exchange Bank & Trust Co., Hannover, Bremen, 33 bls. jute waste.
J. Andersen & Co., Hannover, Bremen, 442 bls. wood pulp.
Bulkley, Dunton & Co., Hannover, ———, 2100 bls. wood pulp.
F. Weber & Co., West Eldara, Antwerp, 8 cs. paper.
Phila. National Bank, West Eldara, Antwerp, 273 bls. rags.
Robert Blank, West Eldara, Antwerp, 72 bls. rags.
S. E. Ingber, West Eldara, Antwerp, 93 bls. rags.
Katzenstein & Keene, Inc., West Eldara, Antwerp, 185 bls. rags.
S. Birkenstein & Son, West Eldara, Antwerp, 47 bls. rags.
Castle & Overton, Inc., West Eldara, Antwerp, 63 bls. rags.
A. Hurst & Co., West Eldara, Antwerp, 49 bls. rags.
Katzenstein & Keene, Inc., Indep. Hall, Bordeaux, 521 bls. rags.
Castle & Overton, Inc., Indep. Hall, Bordeaux, 41 bls. rags.
H. G. Lichtenstein, Indep. Hall, Bordeaux, 54 bls. rags.
J. A. Steer & Co., Indep. Hall, Bordeaux, 135 bls. rags.
D. I. Murphy, Indep. Hall, Bordeaux, 65 bls. rags.
A. Hurst & Co., Indep. Hall, Bordeaux, 41 bls. rags.
D. I. Murphy, Indep. Hall, St. Nazaire, 222 bls. rags.
Castle & Overton, Inc., Indep. Hall, St. Nazaire, 802 bls. rags.
P. Berlowitz, Indep. Hall, St. Nazaire, 137 bls. rags.
E. J. Keller Co., Inc., Indep. Hall, ———, 181 bls. rags.

George Barnett Dead

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., May 6, 1930.—George Barnett, aged 79, boss finisher for many years in Holyoke paper mills, died Saturday morning at his home after a long illness. Previous to coming to Holyoke he had been a steward for years on the Cunard line. He first began paper mill work at the old Chemical Paper Company and was advanced until he became boss finisher. When the American Writing Paper Company was formed he was transferred to the George C. Gill Division holding the same position. He leaves besides his widow, four sons, four daughters, two brothers and two sisters.

Chemical Pulp Prices Weaker at Stockholm

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 7, 1930.—A cablegram from Commercial Attache Klath at Stockholm reports that a decline in purchases with consequent weakening in prices is marking the chemical pulp market. The falling off in demand for sulphate pulp on the part of American purchasers is particularly noticeable.

George H. Chandler Dead

KALAMAZOO, Mich., May 5, 1930.—George H. Chandler, for 30 years an employee of the Bryant Paper Company, died Monday afternoon, April 28, at his home in this city. He was 90 years of age and for 74 years a resident of Kalamazoo. In 1900 he resigned as chief engineer of the city water department to become chief engineer of the Bryant Paper Company. He held the latter post for 17 years and has since then been in charge of the stock room. He was a steady employee almost up to the time of his death.

William Hegenscheld Goes With Moore & White

[FROM OUR REGULAR CORRESPONDENT]

Holyoke, May, 6, 1930.—William Hegenscheld superintendent of the repair shop of the American Writing Paper Company, Inc., has resigned his position to affiliate himself with the Moore & White Company of Philadelphia. He has been connected with the company for about 10 years. A third Holyoker, William L. Nixon, joined the same company in Philadelphia a few weeks ago.

The Leshner Paper Stock Co.

wishes to announce that a change has been made in the corporate name to

THE LESHNER CORPORATION

and request that all communication hereafter be addressed accordingly.
There is no change in directorate nor capitalization.

HAMILTON, OHIO

CLINTON STARCHES

Special Grades for Beater and Top Sizing

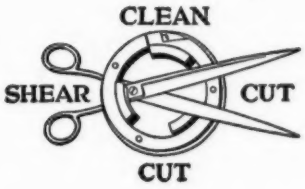
Manufactured by

CLINTON CORN SYRUP REFINING COMPANY

CLINTON, IOWA

QUALITY SERVICE

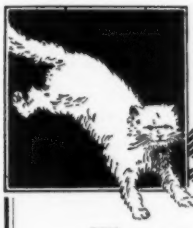
LANGSTON



For clean, square-edged, tightly wound rolls, Langston Slitters are unequalled. The famous Shear-Cut parts the paper sharply—*instead of crushing it.* Ask for catalog giving full details.

SAMUEL M. LANGSTON CO.
Camden, N. J.

SLITTERS



—and fuzz disappears

The magic in ridding a paper sheet of fuzz is simple. No mystery — just chemistry. Use silicate of soda size in the beater.

Let us tell you the experience of other mills in this respect as reported by auditing engineers of the A. C. Nielsen Co. Other benefits of silicate include increased strength, increased ink resistance, improved hydration. May we tell you more about silicate in paper?

QUARTZ QUALITY SILICATES
A-SYRUP BRAND "S" BRAND

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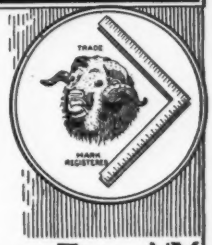
Chicago Sales Office: 205 W. Wacker Drive

3 FEATURES of our "TOP FELTS for BOARD MACHINES"

A Trial Felt for Your Machines Will Prove These Facts.



THE WATERBURY FELT CO., SKANEATELES FALLS, N.Y.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, May 7, 1930.

Trading in the local paper market was irregular during the past week. Demand for the various grades of paper was mostly seasonal. The continued warm weather is creating an early request for summer specialties. Despite keen competition for desirable orders prices are holding up well in most sections of the industry.

The position of the news print market is practically unchanged. According to statistics gathered by the News Print Service Bureau, production in the United States and Canada is still being maintained at approximately 74 per cent of rated capacity. Shipments are going forward at about 73 per cent of rating. The price situation remains unsatisfactory.

Conditions in the paper board market show little improvement. Production is being maintained in sufficient volume to take care of current needs. The price situation continues involved. Demand for the various grades of fine paper is well up to average for the time of year. Tissues are moving in good volume. The coarse paper market is rather spotty. Kraft prices continue weak.

Mechanical Pulp

The ground wood market is exhibiting a fairly steady trend. Demand for both imported and domestic mechanical pulp is fairly satisfactory for the season. Prices generally remain unaltered. Little interest is being shown at present in ground wood screenings, which are now being offered at from $10 to $15 per ton, f.o.b. mill.

Chemical Pulp

Most of the business transacted in the chemical pulp market during the past week was along routine lines. Contract shipments of both imported and domestic chemical pulp are moving in fairly satisfactory volume. There have been no further price changes reported, except on No. 2 strong unbleached sulphite, which is now quoted at from $2.35 to $2.50, on dock, Atlantic ports.

Old Rope and Bagging

The old rope market is rather quiet. Demand for both domestic and imported old manila rope is light. Foreign manila rope is now offered at from $3.85 to $4.15, while domestic manila rope is selling at from $4.25 to $4.50. The bagging market is exhibiting a strong undertone. Gunny bagging is in excellent request and prices are firmer than of late.

Rags

Paper mill interest in the domestic rag market is somewhat restricted. Demand for cotton cuttings is mostly for immediate requirements only. Roofings rags are only in moderate request. Some improvement was noticed in the demand for mixed rags. Domestic rag quotations remain unchanged, in most instances. the foreign rag situation is practically unchanged.

Waste Paper

The higher grades of paper stock are in heavy demand, especially hard and white shavings. White envelope cuttings are moving into consumption in good volume. Book stock continues steady. Prices of the higher grades are steady to firm. The board mills are not displaying much interest at present in the lower grades of paper stock. Prices of the lower grades are easy.

Twine

Business in the local twine market was moderately active during the past week. While most of the orders were for current needs, there were a number of inquiries around for future requirements and the outlook for the future is regarded, as promising, in some quarters. Prices are holding to previously quoted levels, in most instances.

Arthur A. Stewart Dead

CINCINNATI, Ohio, May 3, 1930.—Arthur A. Stewart, aged 48, vice president of the Board and Paper Sales Company, of 104 West 4th street, died Friday, April 25, at his home in the Phelps Apartments. He had been ill for three weeks, suffering from a heart attack.

Mr. Stewart was born in Clifton, December 12, 1881. He was the son of the late Charles Stewart, who once owned a paper mill. He was graduated from St. Xavier College, and was associated for a number of years in the paper business with William A. Stuart in the old firm of Brown & Stuart, which was succeeded by his present company.

He is survived by his widow whom he married two years ago. She was Miss Helen Batterton. Two widowed sisters also survive. They are Mrs. Elizabeth O'Neil, New Orleans, and Mrs. Edith McCallister, London, Eng.

Financing for Board Mill at Salem

[FROM OUR REGULAR CORRESPONDENT]

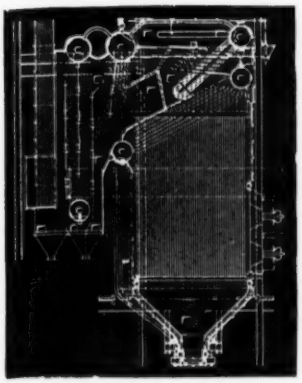
PORTLAND, ORE., May 3, 1930.—The Western Paper Board Products Company which is planning construction of a plant at Salem, Ore., has secured $30,000 in subscriptions for the financing of the building program, the site for the plant being in the rear of the Miles Linen Company's property. J. F. Galbraith, who is interested in the latter company is said to be one of the leaders in forming the new concern.

Contracts for the structure are ready for awarding it is said, and construction will soon be under way with the plant scheduled for completion and operation within 90 days. As previously indicated the products of the plant will be fiber board used for trunk board and for book binding boards. The raw materials will be flax fiber, waste products of the flax mills and screenings that are practically a waste product of the paper mills.

Pulp and Paper Exports from Oslo

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 7, 1930.—A radiogram from Commercial Attache Lund, at Oslo reports the Norwegian ground wood sales as holding up well. Paper exports during March are reported to have been somewhat below normal and some curtailment in production is taking place. Exports during March comprised 24,600 metric tons of chemical pulp, 51,000 tons of mechanical pulp, and 23,500 tons of paper, of which 13,200 tons represented news print paper.



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Rolled Phosphor Bronze and Copper Plates for Rotary Screens

Sole Manufacturers of the Union Witham Screen Plate Vat and Fastener

Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, May 7, 1930.

BLANC FIXE.—Conditions in the blanc fixe market are seasonal. Demand for both the pulp and the powder is fairly persistent. Prices remain unaltered. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—Trading in the bleaching powder market was moderately active. Contract shipments are going forward in fair volume. Prices are generally holding to previously quoted levels. Bleaching powder is still quoted at from $2.00 to $2.35 per 100 pounds, in drums, at works.

CASEIN.—The position of the casein market is practically unchanged. Domestic standard ground is still quoted at 13½ cents and finely ground at 15 cents per pound. Argentine standard ground is selling at 13 cents per pound and finely ground at 14½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Steadiness prevails in the caustic soda market. Demand for this product is fairly active. Prices are steady and unchanged. Solid caustic soda is quoted at from $2.90 to $2.95, while the flake and the ground are selling at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is exhibiting a strong undertone. Supplies are moving into consumption in satisfactory volume. Prices are unchanged. Imported china clay is quoted at from $15 to $25 per ton, ship side, while domestic paper making clay is selling at from $8 to $13 per ton, at mine.

CHLORINE.—Some improvement was noticed in the chlorine market. Contract shipments are proceeding in good volume for the season. Prices are holding to previously recorded levels without difficulty. Chlorine is quoted at $2.50 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—There were no radical changes in the rosin market. Prices are fairly steady. The grades of gum rosin used in the paper mills are quoted at from $7.30 to $7.50 per 280 pounds, in barrels, on dock. Wood rosin is selling at from $5.80 to $6.00 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Offerings of salt cake are not excessive and prices are holding to schedule. The contract movement is well up to average for the time of year. Salt cake is still quoted at from $22 to $25 per ton, while chrome salt cake it selling at from $20 to $21 per ton, in bulk, at works.

SODA ASH.—Most of the business transacted in the soda ash market was along routine lines. Shipments against contract are proceeding in a normal manner for the season. Prices are unchanged. Contract quotations on soda ash, in car lots, at works, are as follows: in bags, $1.32½, and in barrels, $1.55.

STARCH.—Demand for starch from the paper mills was fairly persistent during the past week. The contract movement was well maintained. Prices continue to hold to schedule. Special paper making starch is still quoted at $3.72 per 100 pounds, in bags, and at $3.99 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—Business in the sulphate of alumina market has been fairly satisfactory of late. The contract movement has been heavy. Prices continue to hold to schedule. Commercial grades are quoted at from $1.40 to $1.55 and iron free at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market is displaying a steady trend. Sulphur is still quoted at $18 per ton, at mine, on orders of 1,000 tons, or over, on yearly contracts, and at $20 per ton for any smaller quantity over the same period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Seasonal conditions prevail in the local talc market. Offerings are about sufficient to take care of current needs. Prices remain unchanged. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at eastern mines, while imported talc is selling at from $18 to $20 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@53.25
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	8.00	@11.00
Book, Cased—		
S. & S. C.	6.00	@ 7.50
M. F.	5.75	@ 7.00
Coated and Enamel	7.50	@12.00
Lithograph	7.50	@12.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.35	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .80
Kraft	1.00	@ 1.10
Manila	.75	@ .80
Kraft—		
No. 1 Domestic	6.00	@ 6.50
No. 2 Domestic	3.50	@ 5.00
Southern	3.00	@ 4.50
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

(Delivered New York)

News, per ton—		
Rolls, contract	62.00	@ —
Rolls, spot	62.00	@ —
Sheets	67.00	@ —
Side Runs	47.00	@52.00
Boards—per ton—		
News	37.50	@ —
Straw	52.50	@ —
Chip	35.00	@ —
Binders' Boards	65.00	@70.00
Wood Pulp	90.00	@95.00
65 Test Jute Liner	45.00	@47.50
85 Test Jute Liner	50.00	@55.00
Sgl. Mla. Ll. Chip	47.50	@50.00

Mechanical Pulp

(On Dock)

No. 1 Imported—		
Moist	28.00	@30.00
Dry	30.00	@32.00

(F. o. b. Mill)

No. 1 Domestic	26.00	@30.00
Screenings	10.00	@15.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.25	@ 4.25
Easy Bleaching	2.75	@ 2.90
No. 1 strong unbleached	2.50	@ 2.65
Mitscherlich unbleached	2.50	@ 2.85
No. 2 strong unbleached	2.35	@ 2.50
No. 1 Kraft	2.00	@ 2.20
No. 2 Kraft	1.90	@ 2.00
Sulphate—		
Bleached	3.40	@ 3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.00	@ 4.75
Easy Bleaching Sulphite	2.55	@ 2.85
News Sulphite	2.35	@ 2.60
Mitscherlich	3.00	@ 3.25
Kraft (Domestic)	2.10	@ 3.30
Soda Bleached	2.90	@ 3.20
Coarse	.75	@ .95
Refined	1.65	@ 1.85

Domestic Rags

New Rags

(Prices to Mill f. o. b N. Y.)

Shirt Cuttings—		
New White, No. 1	9.25	@ 9.75
New White, No. 2	7.00	@ 7.50
Silesias No. 1	7.50	@ 8.00
New Unbleached	10.50	@11.00
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Blue Overall	7.25	@ 7.75
Washables	4.75	@ 5.25
Fancy	5.50	@ 6.00
Mixed Khaki Cuttings	4.75	@ 5.25
Pink Corset Cuttings	8.00	@ 8.50
O D. Khaki Cuttings	5.15	@ 5.75
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75

Old Rags

White, No. 1—		
Repacked	5.50	@ 6.00
Miscellaneous	4.50	@ 5.00
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.50	@ 2.75
St. Soiled, White	2.00	@ 2.15
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.70	@ 1.80
No. 1	1.70	@ 1.80
No. 2	1.50	@ 1.60
No. 3	1.30	@ 1.40
No. 4	1.25	@ 1.35
No. 5A	.90	@ 1.05

Foreign Rags

New Rags

New Dark Cuttings	2.50	@ 3.00
New Mixed Cuttings	2.75	@ 3.25
New Light Silesias	7.00	@ 7.50
Light Flannelettes	7.50	@ 8.00
Unbleached Cuttings	10.00	@11.00
New White Cuttings	10.00	@10.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50

Old Rags

No. 1 White Linens	7.25	@ 8.00
No. 2 White Linens	5.75	@ 6.75
No. 3 White Linens	4.75	@ 5.25
No. 4 White Linens	3.00	@ 3.50
No. 1 White Cotton	5.50	@ 6.50
No. 2 White Cotton	2.75	@ 3.75
No. 3 White Cotton	3.00	@ 4.00
No. 4 White Cotton	1.95	@ 2.15
Extra Light Prints	1.95	@ 2.15
Ord. Light Prints	2.25	@ 2.50
Med. Light Prints	1.95	@ 2.10
Dutch Blue Cottons	2.15	@ 2.30
French Blue Linens	2.65	@ 2.75
German Blue Linens	2.30	@ 2.50
German Blue Cottons	2.00	@ 2.10
Checks and Blues	1.85	@ 2.00
Lindsay Garments	1.85	@ 1.95
Dark Cottons	1.45	@ 1.50
Old Shopperies	1.40	@ 1.45
New Shopperies	1.35	@ 1.40
French Blues	2.00	@ 2.10

Old Rope and Bagging

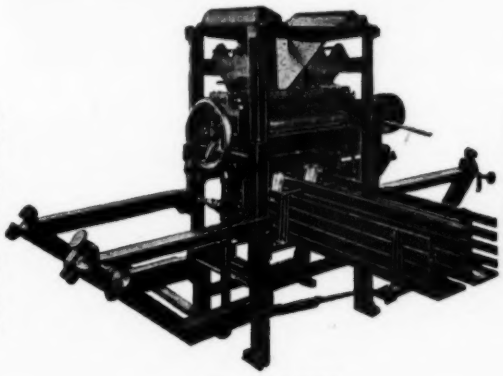
(Prices to Mill f. o.b. N. Y.)

Gunny No. 1—		
Foreign	1.60	@ 1.70
Domestic	1.65	@ 1.75
Wool Tares, light	1.60	@ 1.65
Wool Tares, Heavy	1.60	@ 1.70
Bright Bagging	1.60	@ 1.70
Small Mixed Rope	1.25	@ 1.40
Manila Rope—		
Foreign	3.85	@ 4.15
Domestic	4.25	@ 4.50
New Burlap Cut	2.75	@ 3.00
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, white, No. 1	3.00	@ 3.25
Hard, white, No. 2	2.40	@ 2.55
Soft, white, No. 1	2.65	@ 2.75
White envelope cuttings	2.90	@ 3.10
Flat Stock—		
Stitchless	1.45	@ 1.55
Overissue Mag.	(1.45	@ 1.56
Solid Flat Book	1.40	@ 1 50
Crumpled No. 1	1.00	@ 1.10
Solid Book Ledger	2.00	@ 2.10
Ledger Stock	1.40	@ 1.50
New B. B. Chips	.35	@ .45
Manilas—		
New Env. Cut.	2.40	@ 2.60
New Cuttings	1.50	@ 1.75
Extra No. 1 old	1.25	@ 1.35
Print	.60	@ .65
Bogus Wrapper	.60	@ .65
Container	.40	@ .50
Old Kraft Machine—		
Compressed bales	1.65	@ 1.75
News—		
No. 1 White News	1.65	@ 1.75
Strictly Overissue	.55	@ .65
Strictly Folded	.45	@ .55
No. 1 Mixed Paper	.25	@ .30
Common Paper	.15	@ .20



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Twines
(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrappings, 3-6 Ply—			
No. 1	.19	@	.21
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger	.16	@	.17
Fine Tube Yarn—			
5-ply and larger	.21	@	.25
4-ply	.25	@	.29
3-ply	.28	@	.32
Unfinished India—			
Basis	.13	@	.14
Paper Makers Twine Balls	.11	@	.12
Box Twine, 2-3 ply	.15	@	.17
Jute Rope	.17	@	.19
Amer. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.16	@	.18
No. 2 Basis	.14	@	.16
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Rope	.22	@	.24

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.06¼	@	.06½
Southern Kraft	4.25	@	4.50
No. 2 Kraft	.04	@	.04¼
Wood Tag Boards	.04¼	@	.06¼
Sulphite Sreenings	.03	@	.03¼
Manila Tissue—			
24x36 Sheet	.07	@	.07¼
White Tissue—			
20x30 Sheet	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	37.50	@	42.50
Solid News	47.50	@	—
Solid News	40.00	@	45.00
Manila Lined Chip	50.00	@	55.00
Container Lined—			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cut			
No. 1 Soft Shavings	2.10	@	2.15
No. 1 Mixed	.60	@	.70
No. 2 Mixed	.50	@	.60
Ledger & Writings	1.25	@	1.35
Solid Books	1.05	@	1.10
Blanks	1.60	@	1.65
Krafts	1.65	@	1.75
New Kraft Cuts	2.15	@	2.25
Manila Envelope Cuttings	1.75	@	1.80
Ex. No. 1 Manila	1.30	@	1.45
Print Manila	.60	@	.70
Folded News (over-issue	.50	@	.60
Old Newspapers—			
No. 1	.60	@	.65
No. 2	.50	@	.55
Mixed Papers—			
No. 1	.45	@	.50
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.08	@	.40
Writings—			
Superfine	.12½	@	.18
Extra fine	.18	@	.22
Fine	.17	@	.26
Fine, No. 2	.15	@	.25
Fine, No. 3	.09	@	.20
Book, M. F.	.05	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.09	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.04	@	.05½
Manila No. 2	.03	@	.04
No. 2 Kraft	.03½	@	.04
No. 1 Kraft	.05½	@	.06½
Common Bogus	.03½	@	.04
(Delivered Philadelphia)			
News Print Rolls	62.00	@	—
Straw Board	52.50	@	70.00
News Board	37.50	@	38.50
Chip Board	32.50	@	35.00
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00		
No. 2, per ton	70.00		
Carload lots	68.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.10½	@	.11
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07	@	.09
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable, No. 1	.04½	@	.05
Blue Overall	.07½	@	.08
Cottons—According to grades—			
Washable, No. 2	.03	@	—
New Blue	.03	@	.03½
Fancy	.05½	@	.06
New Black Soft	.05	@	.05¾
New Light Seconds	.02½	@	.03
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05½	@	.05¾
No. 2 Mixed	.04½	@	.04¾
Corduroy	.03	@	.03½
New Canvas	.08½	@	.09
New Black Mixed	.03¾	@	.04½

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.65	@	2.75
No. 2 Hard White	2.30	@	2.50
No. 1 Soft White	2.25	@	2.50
No. 2 Soft White	1.40	@	1.60
No. 1 Mixed	1.20	@	1.25
No. 2 Mixed	.75	@	.80
Solid Ledger Stock	1.55	@	1.65
Writing Paper	1.15	@	1.25
No. 1 Books, heavy	1.15	@	1.20
No. 2 Books, light	.90	@	1.00
No. 1 New Manila	2.25	@	2.30
No. 1 Old Manila	1.50	@	1.60
Print Manila	.75	@	.80
Container Manila	.50	@	.60
Old Kraft	1.35	@	1.40
Common Paper	.30	@	.40
No. 1 Mixed Paper	.25	@	.30
Straw Board, Chip	.35	@	.40
Binders Board, Chip	.35	@	.45
Overissue News	.45	@	.50
Old Newspaper	.25	@	.30

Domestic Rags (Old)

White No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	3.75
M. G.	7.00		—
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.60	@	1.80
Black Stockings (Export)	3.90	@	4.25
Roofing Stock—			
Foreign No. 1	1.65	@	1.75
Repacked	.01½	@	.01½
No. 2	1.20	@	1.25
No. 3 (Roofing)	1.10	@	1.20
No. 4	1.00	@	1.15
No. 5A	.75	@	.85
B	.65	@	.75
C	.65	@	.75

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06⅛
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.06¼	@	.06½
No. 2 Kraft	.03½	@	.04½
Common Bogus	.02	@	.02¾
Delivered New England points			
News Print Rolls	61.50	@	—
Straw Boards, rolls .009	52.50		
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board	37.50	@	40.00
Chip Board	35.00	@	37.50
Single Manila Lined Chip	47.50	@	52.50
Single White, Patent Coated Newsboard Bender	65.00	@	80.00
Wood Pulp Board	75.00	@	80.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.40	@	2.50
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	—	@	2.25
No. 1 Books, Heavy	1.45	@	—
No. 1 Books, Light	—	@	1.15
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	.90	@	1.00
White Blank News	1.60	@	1.70
Old Kraft	1.40	@	1.50
Print Manila	.75	@	.80
No. 1 Mixed Paper	—	@	.22½
Overissue News	.40	@	.50
Old Newspapers	.40	@	.45
Box Board, Chip	.45	@	.50
Corrugated Boxes	—	@	.40

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	1.70	@	—
Manila Rope—			
Foreign	3.75	@	4.10
Domestic	—	@	4.25
Transmission Rope	2.25	@	2.50
Mixed Strings	1.00	@	—
Jute Wool Strings	.90	@	1.00
Jute Carpet Threads	1.05	@	1.15
Scrap Burlaps	1.25	@	1.40
Scrap Sisal	1.55	@	1.65
Scrap Sisal for shredding	1.75	@	2.00
Wool Tares, heavy	1.60	@	—
New Burlap Cutting	1.75	@	2.00
Australian Wool Pouches	2.50	@	3.00

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1.	.08	@	.08½
Silesias No. 1	.06	@	.06¼
New Unbleached	—	@	.09¼
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06¾
New Black, soft	.04	@	.04¼
Khaki Cuttings	.04	@	.04¾
O. D. Khaki	.05	@	—
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.75	@	3.00
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	1.90
Black Stockings	—	@	4.00
Roofing Stock—			
No. 1	1.65	@	1.75
No. 2	1.40	@	1.50
No. 3	1.05	@	1.10
No. 4	1.10	@	1.15

Foreign Rags
(F. o. b. Boston)

Dark Cottons	1.30	@	1.40
New No. 1 Shirt Cuttings	9.00	@	9.50
Dutch Blues	2.00	@	2.12½
Lace Curtains	4.50	@	4.75
New Checks & Blues	4.25	@	4.60
Old Fustians	1.90	@	2.00
Old Linsey Garments	1.70	@	1.80

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.80	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.00	@	—
White, No. 2	2.00	@	2.25

(Delivered Toronto)

News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp
(F. o. b. Mill)

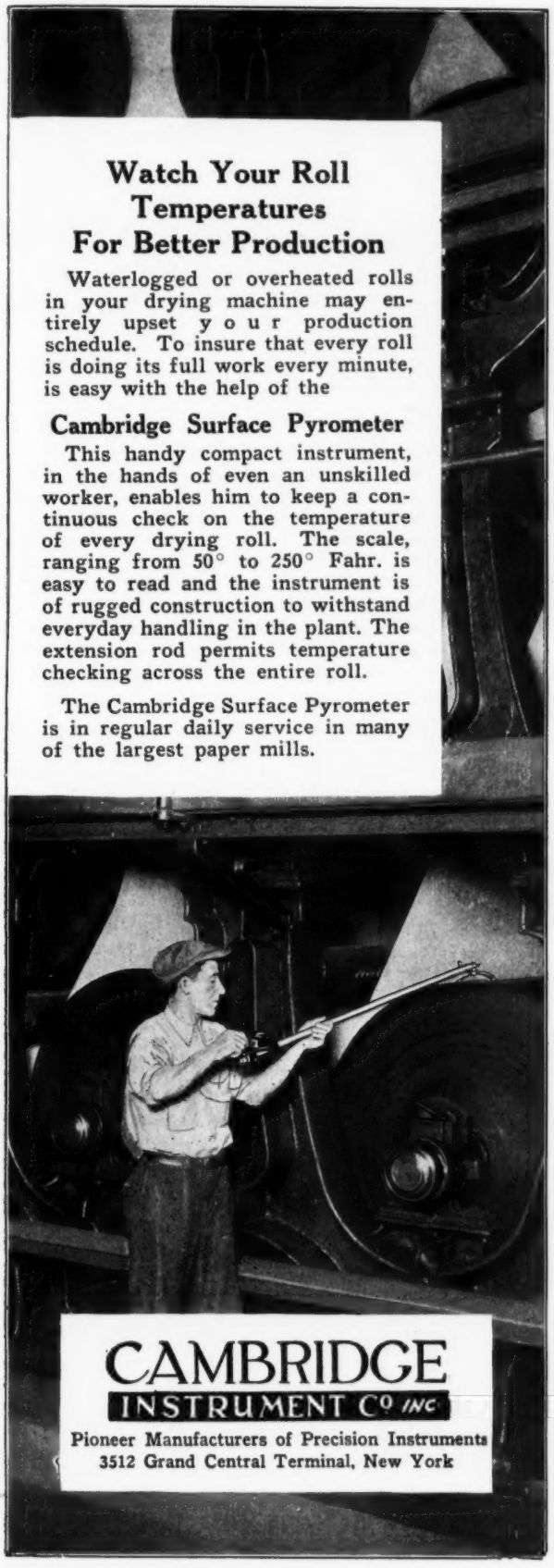
Ground Wood	30.00	@	32.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	60.00	@	—
Sulphite, bleached	72.50	@	75.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk. News	1.60	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writ-Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.85	@	—
Strictly Folded	.85	@	—
No. 1 Mixed Paper	.65	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09¼	@	.10
Fancy Shirt Cuttings	.06	@	.06¼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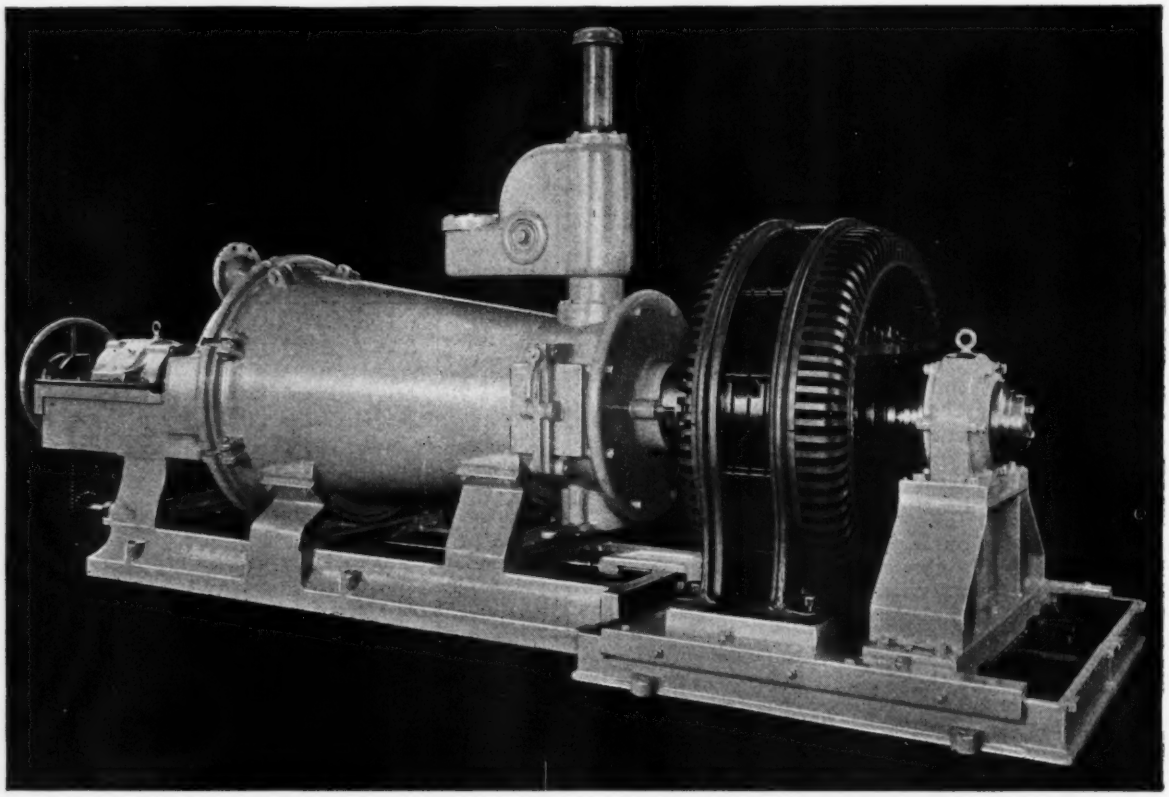

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